Acer

Aspire G7700 Series
Service Guide

Service guide files and updates are available on the ACER/CSD web; for more information, please refer to http://csd.acer.com.tw

PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on Aspire G7700 Series service guide.

Date	Chapter	Updates

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Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives additional information related to the current topic.
WARNING	Alerts you to any physical risk or system damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Service Guide Coverage

This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

FRU Information

Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Tour

Features

Below is a brief summary of the computer's many feature:

NOTE: The feature listed in this section is for your reference only. The exact configuration of the server depends on the model purchased.

Processor

- Intel Core 2 Extreme quad-core processor (up to 1333 MHz FSB)
- Intel Core 2 Quad processor

Chipset

- North bridge: NVIDIA nForce 780I SLI chipset
- South bridge: NVIDIA nForce 570i SLI chipset

Memory subsystem

- Supports up to 8 GB 240-pin DDR2-800/1066 MHz SDRAM
- Dual-channel support on four DIMMs

Media storage

- Two 5.25" drive bays
  - BD/HD DVD reader + SuperMulti DVD burner
  - Super-Multi DVD drive
- Four 3.5" easy-swap HDD drive bays
  - Up to 1 TB SATA hard disk drive
  - RAID 0, 1, 5, 0+1 capable with NVIDIA MediaShield Storage Technology

Networking

- Gigabit Ethernet, Wake-on LAN ready
- WLAN: IEEE 802.11b/g
- Modem: 56K ITU V.92, Wake-on Ring ready

PCI I/O

- Three PCI Express x16 slot s (including two PCI Express 2.0 with 5 Gb/s)
- Two PCI Express x1 slots
- PCI Express x8 slot
- PCI 2.3 5V slot

Graphics

- Enabled NVIDIA 3-way/2-way SLI
- PCI Express 2.0 x 16 graphics card

TV tuner card

- Hybrid analog (NTSC/PAL/SECAM) and digital (DVB-T or ATSC format) TV-tuner card, supporting software MPEG-2 stream coding

Audio

- Dolby system
- Embedded high-definition audio with 7.1-channel and EAX 4.0 audio support
- Optional Creative Sound Blaster X-Fi audio card
- S/PDIF (Sony/Philips Digital Interface) support

I/O ports

- Front I/O ports
  - Five USB 2.0 ports
  - IEEE 1394 port (4-pin)
  - Multi-in-one card reader
  - Headphone jack
  - Microphone jack
- Rear I/O ports
  - PS/2 keyboard port
  - PS/2 mouse port
  - IEEE 1394 port (6-pin)
  - S/PDIF jack
  - Two eSATA ports
  - Four USB 2.0 ports
  - Two Ethernet (RJ-45) ports
  - Six audio jacks
- Graphics card I/O ports
  - DVI ports (up to six with 3-way SLI)
  - TV-out port (optional)

Operating system and software

- Operating system options:
  - Genuine Windows Vista® Ultimate (32/64-bit)
  - Genuine Windows Vista Home Premium (32/64-bit)
- Applications
  - Acer Empowering Technology (Acer eRecovery Management)
  - Acer Arcade Live
  - McAfee Internet Security Suite 2008 Trial version
  - Adobe Reader
  - eSobi
  - NTI MediaMaker

Power supply

- 1000/750 W power supply

Dimensions and weight

- Length: 490 mm
- Height: 430 mm
- Width: 190 mm

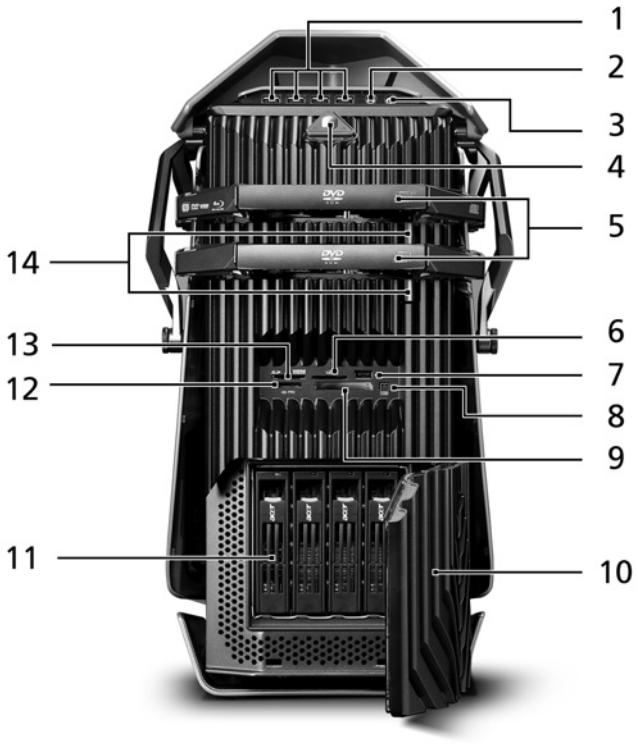
Aspire G7700 Tour

This section is a virtual tour of the Aspire G7700 system's interior and exterior components.

Closed Front Panel

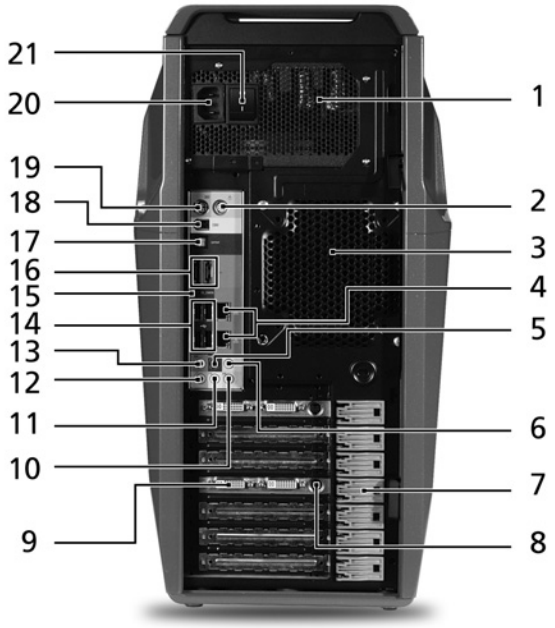
Item	Component
1	Hinge screws x4
2	Door hinges x4
3	Bezel door

Front Panel



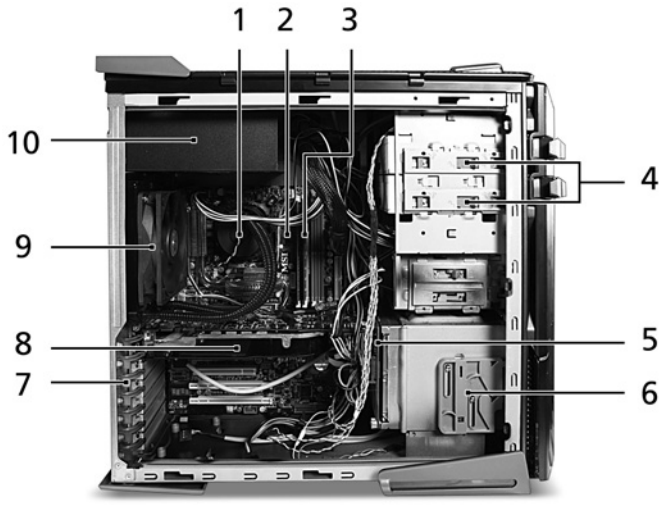
Item	Icon	Component
1		USB 2.0 ports
2		Headphone/line-out jack
3		Microphone/speaker-out/line-in jack
4		Power button/power indicator
5		Optical disk drives
6		XD (eXtreme Digital) slot
7		USB 2.0 port
8	1394	IEEE 1394 port (4-pin)
9		CFI/II (CompactFlash Type I/II) slot
10		Drive bay door
11		Easy-swap hard disk drives (1-4)
12	PRO	MS/MS Pro (Memory Stick/Memory Stick Pro Duo) slot
13		SD/MMC (SecureDigital/MultimediaCard) slot
14		Optical disk drive eject buttons

Rear Panel



Item	Icon	Component
1		Power supply
2		PS2 mouse port
3		System fan
4		Network ports
5		Rear speaker jack
6		Center speaker/subwoofer jack
7		Expansion slot locks
8		S-video port
9		DVI port
10		Audio-in/line-in jack
11		Headphone/line-out/front speaker jack
12		Microphone/line-in jack
13		Side speaker/line-out jack
14		USB 2.0 ports
15	**CL_CMOS**	CMOS (Complementary Metal Oxide Semiconductor) reset button
16	**ESATA**	eSATA (External Serial Advanced Technology Attachment) ports
17	**S/PDIF**	S/PDIF port
18	1394	IEEE 1394 port (6-pin)
19		PS2 keyboard port
20		Power connector
21		Main power switch

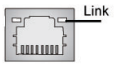
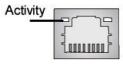
Internal Components



Item	Component
1	Liquid cooling system
2	Mainboard
3	System memory
4	Release sliders for optical drives
5	Hard drive backplane board
6	Release sliders for HDD drives
7	Expansion slot lock levers
8	Expansion card
9	System fan
10	Power supply module

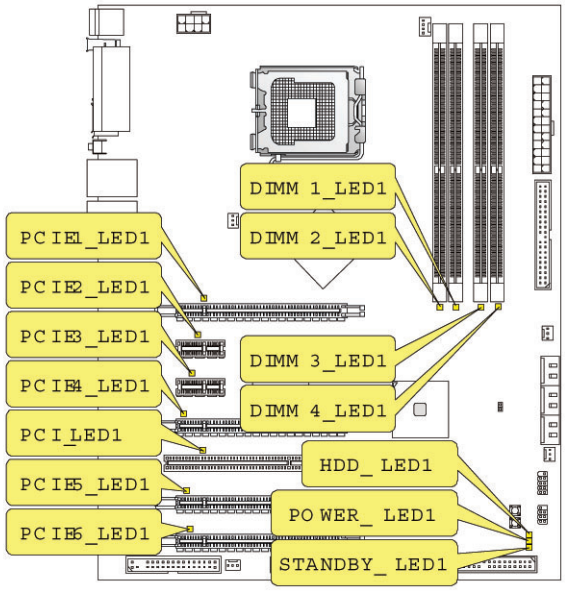
System LED Indicators

This section describes the different system LED indicators.

LED indicator	Color	LED status	Description
Power	Blue	On	The system has AC power and is powered on.
		Blinking	The system is in standby mode.
HDD activity	Green	Blinking	Ongoing HDD activity.
	Amber	On	HDD failure
	Green/ Amber	Flashing	HDD is rebuilding.
LAN port network activity LED (left) 	Orange	On (steady state)	Active network link
		Blinking (brighter and pulsing)	Ongoing network data activity
		Off	Off-line network
LAN port network link LED (right) 	Orange	On	1000 Mbps link network access
	Green	On	100 Mbps link network access
		Off	10 Mbps link network access

Mainboard LED indicators

The mainboard LED indicators are easy to check the system status when user open the cover or testing the system board.



LED status	Description
PCIE1 (blue)	Lights when PCI E1 slot is functional.
PCIE2 (blue)	Lights when PCI E2 slot is functional.
PCIE3 (blue)	Lights when PCI E3 slot is functional.
PCIE4 (blue)	Lights when PCI E4 slot is functional.
PCI (blue)	Lights when PCI1 slot is functional.
PCIE5 (blue)	Lights when PCI E5 slot is functional.
PCIE6 (blue)	Lights when PCI E6 slot is functional.
DIMM1 (orange)	Lights when the DIMM1 slot is functional.
DIMM2 (green)	Lights when the DIMM2 slot is functional.
DIMM3 (green)	Lights when the DIMM3 slot is functional.
DIMM4 (orange)	Lights when the DIMM4 slot is functional.
HDD (pink)	Lights when the HDD is functional.
Power (blue)	Lights when the system is powered on.
Standby (pink)	Lights when the system is in standby mode.

System Utilities

CMOS Setup Utility

CMOS setup is a hardware configuration program built into the system ROM, called the complementary metal-oxide semiconductor (CMOS) Setup Utility. Since most systems are already properly configured and optimized, there is no need to run this utility. You will need to run this utility under the following conditions.

- When changing the system configuration settings
- When redefining the communication ports to prevent any conflicts
- When modifying the power management configuration
- When changing the password or making other changes to the security setup
- When a configuration error is detected by the system and you are prompted ("Run Setup" message) to make changes to the CMOS setup

NOTE: If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

CMOS setup loads the configuration values in a battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM which allows configuration data to be retained when power is turned off.

Before you run the *CMOS* Setup Utility, make sure that you have saved all open files. The system reboots immediately after you close the Setup.

NOTE: *CMOS* Setup Utility will be simply referred to as “BIOS”, "Setup", or "Setup utility" in this guide.

The screenshots used in this guide display default system values. These values may not be the same those found in your system.

Entering CMOS setup

1. Turn on the server and the monitor.

   If the server is already turned on, close all open applications, then restart the server.

2. During POST, press **Delete**.

   If you fail to press **Delete** before POST is completed, you will need to restart the server.

   The Setup Main menu will be displayed showing the Setup's menu bar. Use the left and right arrow keys to move between selections on the menu bar.

Navigating Through the Setup Utility

Use the following keys to move around the Setup utility.

- **Left** and **Right** arrow keys – Move between selections on the menu bar.
- **Up** and **Down** arrow keys – Move the cursor to the field you want.
- **PgUp** and **PgDn keys** – Move the cursor to the previous and next page of a multiple page menu.
- **Home** – Move the cursor to the first page of a multiple page menu.
- **End** – Move the cursor to the last page of a multiple page menu.
- **+** and **-** keys – Select a value for the currently selected field (only if it is user-configurable). Press these keys repeatedly to display each possible entry, or the **Enter** key to choose from a pop-up menu.

NOTE: Grayed-out fields are not user-configurable.

- **Enter** key – Display a submenu screen.

NOTE: Availability of submenu screen is indicated by a (>).

- **Esc** – If you press this key:
  - On one of the primary menu screens, the Exit menu displays.
  - On a submenu screen, the previous screen displays.
  - When you are making selections from a pop-up menu, closes the pop-up without making a selection.
- **F1** – Display the General Help panel.
- **F6** – Press to load optimized default system values.
- **F7** – Press to load fail-safe default system values.
- **F10** – Save changes made the Setup and close the utility.

Setup Utility Menus

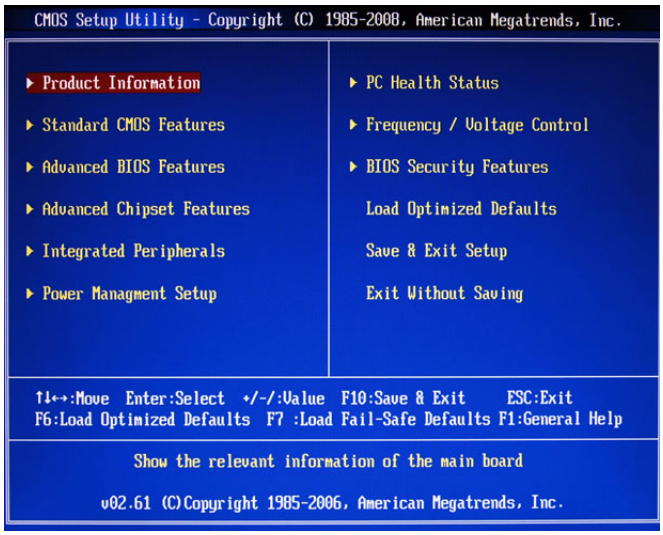
The tabs on the Setup menu bar correspond to the six primary CMOS Setup menus, namely:

- Product Information
- Standard CMOS Features
- Advanced BIOS Features
- Advanced Chipset Features
- Integrated Peripherals
- Power Management Setup
- PC Health Status
- Frequency/Voltage Control
- BIOS Security Features
- Load Optimized Defaults
- Save & Exit Setup
- Exit Without Saving

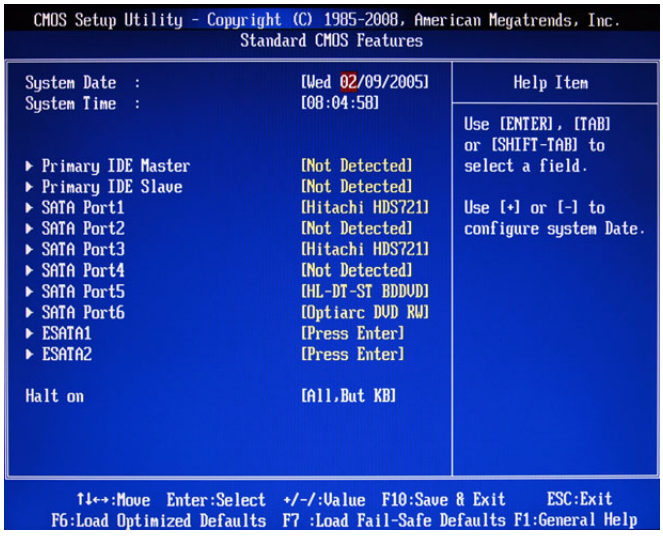
In the descriptive table following each of the menu screenshots, settings in **boldface** are the default and suggested settings.

Product Information

Select the Product Information from the CMOS Setup menu, then press Enter. The basic information about the system appears on the screen. These entries are for your reference only and are not user-configurable.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Product Information
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Managment Setup
PC Health Status
Frequency / Voltage Control
BIOS Security Features
Load Optimized Defaults
Save & Exit Setup
Exit Without Saving
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit ESC:Exit
F6:Load Optimized Defaults F7 :Load Fail-Safe Defaults F1:General Help
Show the relevant information of the main board
v02.61 (C)Copyright 1985-2006, American Megatrends, Inc.

Standard CMOS Features

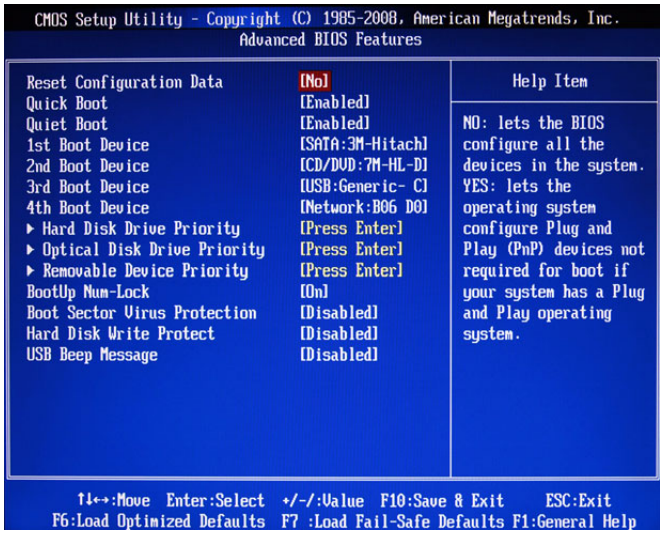

CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Standard CMOS Features
System Date : [Wed 02/09/2005]
System Time : [08:04:58]
Primary IDE Master [Not Detected]
Primary IDE Slave [Not Detected]
SATA Port1 [Hitachi HDS721]
SATA Port2 [Not Detected]
SATA Port3 [Hitachi HDS721]
SATA Port4 [Not Detected]
SATA Port5 [HL-DT-ST BDDVD]
SATA Port6 [Optiarc DVD RW]
ESATA1 [Press Enter]
ESATA2 [Press Enter]
Halt on [All,But KB]
Help Item
Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.
Use [+] or [-] to configure system Date.
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit ESC:Exit
F6:Load Optimized Defaults F7 :Load Fail-Safe Defaults F1:General Help

Parameter	Description	Option
System Date	Set the date following the weekday-month-day-year format.	
System Time	Set the system time following the hour-minute-second format.	
Primary Master/Slave & Serial-ATA 1~6 channel & E-SATA 1/2	Press **Enter** to view detailed device information connected to the IDE/SATA/E-SATA connectors.	
Halt On	Determines whether the system will stop for an error during the POST.	**All, But KB** No Errors All Errors

Primary IDE Master/Primary IDE Slave/SATA port/E-SATA

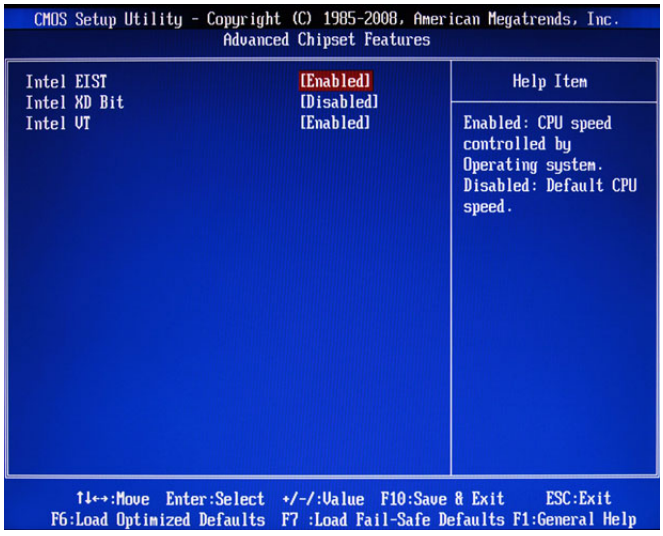
Parameter	Description	Option
Type	Selects the type of device connected to the system.	**Auto** Not Installed CD/DVD ARMD
LBA/Large Mode	Selects the hard disk drive translation method. For drivers with more than 504 MB, LBA mode is necessary.	**Auto** Disabled
Block Mode	When set to Auto, the data transfer from and to the device occurs multiple sectors at a time if the device supports it. When set to Disable, the data transfer from and to the device occurs one sector at a time.	**Auto** Disabled
PIO Mode	Set the PIO (Programmed Input/Output) mode for the IDE/SATA/E-SATA drive.	**Auto** 0, 1, 2, 3, 4
DMA Mode	Select a DMA (Direct Memory Access) transfer mode to enhance hard disk performance.	**Auto** SWDMAn MWDMAn UDMAn
S.M.A.R.T. (Hard Disk S.M.A.R.T)	Enables or disables the Self Monitoring Analysis And Reporting Technology (S.M.A.R.T.) capability of the hard disks. S.M.A.R.T. is a utility that monitors the hard disk's condition.	**Auto** Enabled Disabled
32Bit Data Transfer	Enables or disables the 32-bit data transfer mode.	**Enabled** Disabled

Advanced BIOS Features


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Advanced BIOS Features
Reset Configuration Data [No]
Quick Boot [Enabled]
Quiet Boot [Enabled]
1st Boot Device [SATA:3M-Hitach]
2nd Boot Device [CD/DVD:7M-HL-D]
3rd Boot Device [USB:Generic- C]
4th Boot Device [Network:B06 D0]
▸ Hard Disk Drive Priority [Press Enter]
▸ Optical Disk Drive Priority [Press Enter]
▸ Removable Device Priority [Press Enter]
BootUp Num-Lock [On]
Boot Sector Virus Protection [Disabled]
Hard Disk Write Protect [Disabled]
USB Beep Message [Disabled]
Help Item
NO: lets the BIOS configure all the devices in the system. YES: lets the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit ESC:Exit
F6:Load Optimized Defaults F7 :Load Fail-Safe Defaults F1:General Help

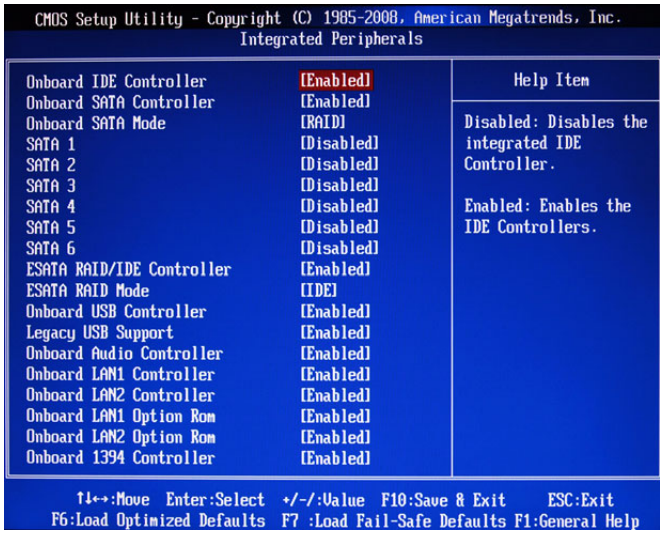
Parameter	Description	Option
Reset Configuration Data	Allows you to manually force BIOS to clear the previously saved Extended System Configuration Data (ESCD) data and reconfigure the settings. When set to no, it lets the BIOS configure all the devices in the system. When set to yes, it lets the OS configure Plug and Play (PnP) devices not required for boot if the system has a PnP OS.	**No** Yes
Quick Boot	Allows you to decrease the time it takes to boot the computer by shortening or skipping certain standard booting process.	**Enabled** Disabled
Quiet Boot	When enabled, the BIOS splash screen displays during startup. When disabled, the diagnostic screen displays during startup.	**Enabled** Disabled
1st/2nd/3rd/4th Boot Device	Specifies the boot order from the available devices.	Hard Disk CD^DVD Removable Device LAN
Hard Disk Drive Priority	Press **Enter** to access the Hard Disk Drive Priority submenu and specify the boot device priority sequence from available hard drives.	
Optical Disk Drive Priority	Press **Enter** to access the Optical Disk Drive Priority submenu and specify the boot device priority sequence from available CD/DVD drives.	
Removable Device Priority	Press **Enter** to access the Removable Device Priority submenu and specify the boot device priority sequence from available removable drives.	
Bootup Num-Lock	Selects power on state for Num Lock.	**On** Off
Boot Sector Virus Protection	Enables or disables the boot sector virus protection feature. If enabled, BIOS will show a warning message on the screen or an alarm beep when someone attempts to write data into this area.	**Disabled** Enabled
Hard Disk Write Protect	Enables or disables the hard disk write protect feature.	**Disabled** Enabled
USB Beep Message	Enables or disables BIOS to display error beeps or messages during USB device enumeration.	**Disabled** Enabled

Advanced Chipset Features


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Advanced Chipset Features
Intel EIST [Enabled]
Intel XD Bit [Disabled]
Intel VT [Enabled]
Help Item
Enabled: CPU speed controlled by Operating system. Disabled: Default CPU speed.
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit ESC:Exit
F6:Load Optimized Defaults F7 :Load Fail-Safe Defaults F1:General Help

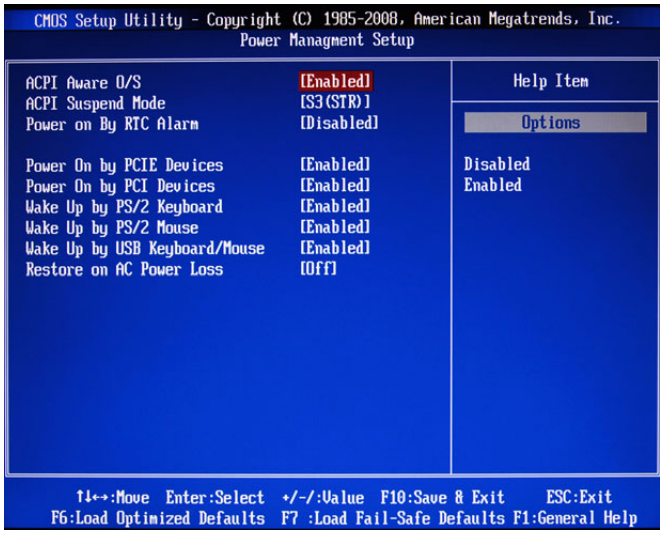
Parameter	Description	Option
Intel EIST	Enables or disables the processor speed to be controlled by the OS.	**Enabled** Disabled
Intel XD Bit	If disabled, it forces the Execute Disable (XD) Bit feature flag to always return to 0.	**Enabled** Disabled
Intel VT	Enabled or disables the Virtualization Technology (VT) availability.	**Enabled** Disabled

Integrated Peripherals


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Integrated Peripherals
Onboard IDE Controller [Enabled]
Onboard SATA Controller [Enabled]
Onboard SATA Mode [RAID]
SATA 1 [Disabled]
SATA 2 [Disabled]
SATA 3 [Disabled]
SATA 4 [Disabled]
SATA 5 [Disabled]
SATA 6 [Disabled]
ESATA RAID/IDE Controller [Enabled]
ESATA RAID Mode [IDE]
Onboard USB Controller [Enabled]
Legacy USB Support [Enabled]
Onboard Audio Controller [Enabled]
Onboard LAN1 Controller [Enabled]
Onboard LAN2 Controller [Enabled]
Onboard LAN1 Option Rom [Enabled]
Onboard LAN2 Option Rom [Enabled]
Onboard 1394 Controller [Enabled]
Help Item
Disabled: Disables the integrated IDE Controller.
Enabled: Enables the IDE Controllers.
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit ESC:Exit
F6:Load Optimized Defaults F7 :Load Fail-Safe Defaults F1:General Help

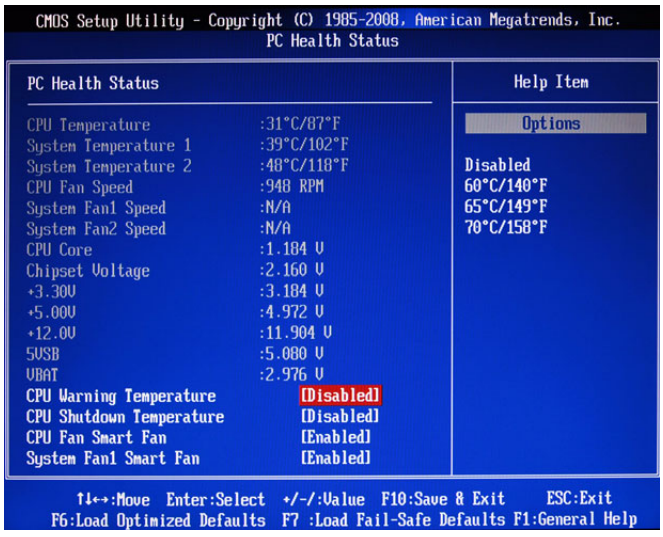
Parameter	Description	Option
Onboard IDE Controller	Enables or disables the onboard IDE controller.	**Enabled** Disabled
Onboard SATA Controller	Enables or disables the onboard SATA controller.	**Enabled** Disabled
Onboard SATA Mode	Select an operating mode for the onboard SATA.	**RAID** Native IDE
SATA 1 to 6	Enables or disables the SATA RAID on ports 1 to 6. **Note:** This parameter is configurable only if the SATA Mode is set to RAID.	**Disabled** Enabled
ESATA RAID/IDE Controller	Enables or disables the ESATA RAID/IDE controller.	**Disabled** Enabled
ESATA RAID Mode	Select a operating mode for the ATA controller.	**IDE** RAID
Onboard USB Controller	Enables or disables the onboard USB controller.	**Enabled** Disabled
Legacy USB Support	Enables or disables support for legacy USB devices.	**Enabled** Disabled
Onboard Audio Controller	Enables or disables the onboard audio controller.	**Enabled** Disabled
Onboard LAN1/2 Controller	Enables or disables the onboard LAN 1 or 2 controller.	**Enabled** Disabled
Onboard LAN1/2 Option ROM	Enables or disables the load of embedded option ROM for onboard network controller.	**Disabled** Enabled
Onboard 1394 Controller	Enables or disables the onboard IEEE 1394 controller.	**Enabled** Disabled

Power Management Setup


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Power Managment Setup
ACPI Aware O/S [Enabled]
ACPI Suspend Mode [S3(STR)]
Power on By RTC Alarm [Disabled]
Power On by PCIE Devices [Enabled]
Power On by PCI Devices [Enabled]
Wake Up by PS/2 Keyboard [Enabled]
Wake Up by PS/2 Mouse [Enabled]
Wake Up by USB Keyboard/Mouse [Enabled]
Restore on AC Power Loss [Off]
Help Item
Options
Disabled
Enabled
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit ESC:Exit
F6:Load Optimized Defaults F7 :Load Fail-Safe Defaults F1:General Help

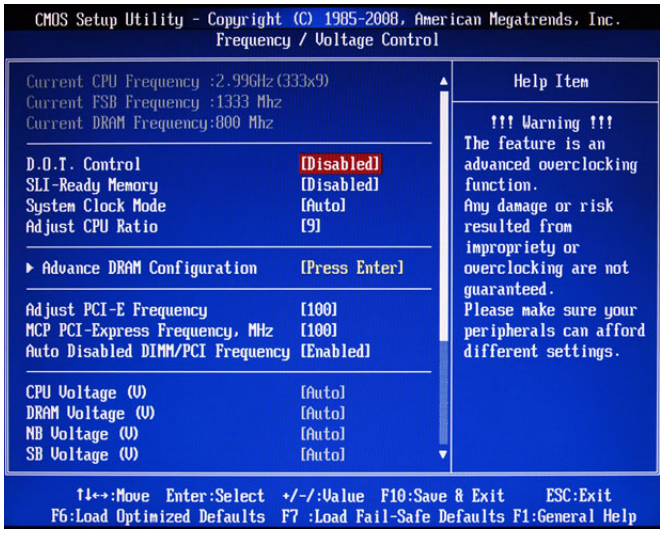
Parameter	Description	Option
ACPI Aware O/S	Enables or disables the Advanced Configuration and Power Management (ACPI) function.	**Enabled** Disabled
ACPI Suspend Mode	Select an ACPI state.	**S3 (STR)** S1 (POS)
Power On by RTC Alarm	Enables or disables to boot the system on scheduled date/time.	**Disabled** Enabled
Power On by PCIE Devices	Enables or disables to wake up the system from a power saving mode through an event on PCI Express device.	**Enabled** Disabled
Power On by PCI Devices	Enables or disables to wake up the system from a power saving mode through a Power Management Event (PME).	**Enabled** Disabled
Wake Up by PS/2 Keyboard	Enables or disables to wake up the system from a power saving mode using a PS2 keyboard.	**Enabled** Disabled
Wake Up by PS/2 Mouse	Enables or disables to wake up the system from a power saving mode using a PS2 mouse.	**Enabled** Disabled
Wake Up by USB Keyboard/ Mouse	If enabled, press any key or click the mouse will wake system from S1/ S3 state.	**Enabled** Disabled
Restore On AC Power Loss	Enables or disables the system to reboot after a power failure or interrupt occurs.	**Off** On Last State

PC Health Status



Parameter	Description	Option
CPU Warning Temperature	Sets the warning threshold for processor temperature. When processor temperature exceeds the threshold, BIOS will emit warning sound.	**Disabled** 60° C/140° F 65° C/149° F 70° C/158° F
CPU Shutdown Temperature	Sets the processor shutdown temperature.	**Disabled** 700° C/158° F 75° C/167° F 80° C/176° F
CPU Fan Smart Fan	Enables or disables the processor fan speed control function.	**Enabled** Disabled
System Fan1 Smart Fan	Enables or disables the system fan 1 speed control function.	**Enabled** Disabled

Frequency Control

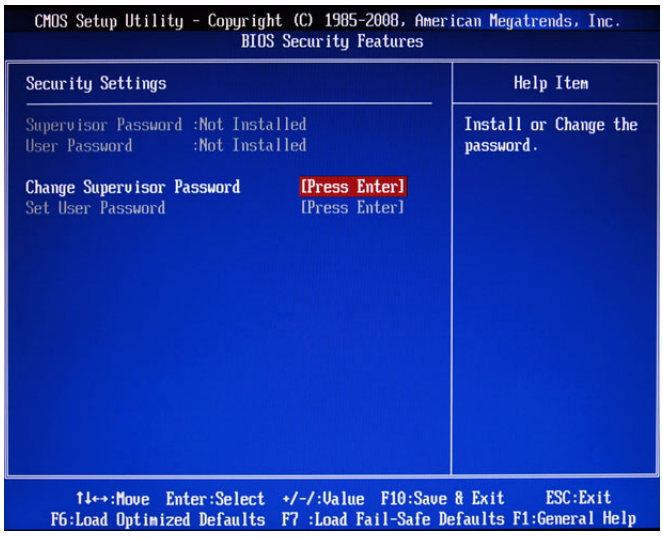

CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Frequency / Voltage Control
Current CPU Frequency :2.99GHz(333x9)
Current FSB Frequency :1333 Mhz
Current DRAM Frequency:800 Mhz
D.O.T. Control [Disabled]
SLI-Ready Memory [Disabled]
System Clock Mode [Auto]
Adjust CPU Ratio [9]
▶ Advance DRAM Configuration [Press Enter]
Adjust PCI-E Frequency [100]
MCP PCI-Express Frequency, MHz [100]
Auto Disabled DIMM/PCI Frequency [Enabled]
CPU Voltage (V) [Auto]
DRAM Voltage (V) [Auto]
NB Voltage (V) [Auto]
SB Voltage (V) [Auto]
Help Item
!!! Warning !!!
The feature is an advanced overclocking function.
Any damage or risk resulted from impropriety or overclocking are not guaranteed.
Please make sure your peripherals can afford different settings.
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit ESC:Exit
F6:Load Optimized Defaults F7 :Load Fail-Safe Defaults F1:General Help

Parameter	Description	Option
D.O.T. Control	Enables or disables Dynamic Overclocking Technology (D.O.T.). DOT detects the load balance of the processor while running programs, and to adjust the best processor frequency automatically. When the system detects the CPU is running programs, it will speed up the processor automatically to make the program run smoothly and faster. When the CPU is temporarily suspending or staying in the low load balance, it will restore the default settings instead. Options include: • Disabled - DOT is disabled • Private - First level of overclocking, increases the frequency by 1% • Sergeant - Second level of overclocking, increases the frequency by 3% • Captain - Third level of overclocking, increases the frequency by 5% • Colonel - Fourth level of overclocking, increases the frequency by 7% • General - Fifth level of overclocking, increases the frequency by 10% • Commander - Sixth level of overclocking, increases the frequency by 15%	**Disabled** Private Sergeant Captain Colonel General Commander
SLI-Ready Memory	Select the Serial Presence Detect (SPD) profile for SLI-Ready memory modules.	**Disabled** 0% CPU OC 1% CPU OC 2% CPU OC 3% CPU OC 4% CPU OC 5% CPU OC Max CPU OC Expert
System Clock Mode	When set to Manual, allow you to configure the FSB and memory clock frequency.	**Auto** Linked Manual
FCB Clock (MHz)	Sets the FSB frequency depend on CPU ranged from 400 to 2500 MHz. Any value that is not within this range will have no effect.	400-2500 MHz
Memory Clock (MHz)	Sets the memory frequency ranged from 400 to 1400 MHz. Any value that is not within this range will have no effect.	400-1400 MHz
Adjust CPU Ratio	Sets the processor ratio. Available only when the processor supports this function.	**9** 6 7 8

Parameter	Description	Option
Adjust DRAM Configuration	Press **Enter** to access the Adjust DRAM Configuration submenu to override the memory's Serial Presence Detect (SPD) settings by manually entering values for DRAM timings.	
Adjust PCI-E Frequency	Sets the PCI Express clock frequency.	101 to 115
MCP PCI-Express Frequency, MHz	Sets the reference clock for the media and communications processor (MCP) PCI Express	101 to 115
Auto Disabled DIMM/PCI Frequency	Enables or disables the system to remove (turn off) clocks from empty DIMM and PCI slots to minimize electromagnetic interference (EMI).	**Enabled** Disabled
CPU Voltage (V)	Select processor voltage control.	**Auto**
DRAM Voltage (V)	Select memory voltage control to increase memory speed.	**2.00** Min: 1.80v Max: 2.80 V
NB Voltage (V)	Select Northbridge (NB) chipset voltage control.	**Auto** Min: 1.200v Max: 1.600 V
SB Voltage (V)	Select Southbridge (SB) chipset voltage control.	**Auto** Min: 1.500v Max: 2.000 V
NB Memory Reference Voltage	Set the NB memory reference voltage.	**Auto**
DIMM Memory Reference Voltage	Set the memory reference voltage.	**Auto**
Memory Terminator Voltage	Set the memory terminator voltage.	**Auto**
CPU GTL Reference Voltage	Set the processor Gunning Transreceiver Logic (GTL) reference voltage to provide headroom for overclocking quad-core processors.	**Auto**
NB GTL Reference Voltage	Set the NB GTL reference voltage to provide the best level of stability on the system.	**Auto**
FSB Terminator Voltage	Set the FSB terminator voltage.	**Auto**
Spread Spectrum	Enables or disables the reduction of the mainboard's EMI. **Note:** Remember to disable the Spread Spectrum feature if you are overclocking. A slight jitter can introduce a temporary boost in clock speed causing the overclocked processor to lock up.	**Enabled** Disabled

BIOS Security Features

The BIOS Security menu allows you to safeguard and protect the system from unauthorized use by setting up access passwords.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
BIOS Security Features
Security Settings
Help Item
Supervisor Password :Not Installed
User Password :Not Installed
Install or Change the password.
Change Supervisor Password [Press Enter]
Set User Password [Press Enter]
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit ESC:Exit
F6:Load Optimized Defaults F7 :Load Fail-Safe Defaults F1:General Help

Parameter	Description	Option
Supervisor Password	Indicates the status of the supervisor password.	
User Password	Indicates the status of the user password.	
Change Supervisor Password	Supervisor password prevents unauthorized access to the BIOS Setup Utility. Press **Enter** to change the Supervisor password.	
Set User Password	User password is used to control entry access to the BIOS Setup Utility. User password is available only when a Supervisor password is set. Press **Enter** to change the User password.	

Setting a supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.

   A password box will appear.
2. Type a password then press **Enter**.

   The password may consist up to six alphanumeric characters (A-Z, a-z, 0-9)
3. Retype the password to verify the first entry then press **Enter** again.
4. Press **F10**.
5. Select **Yes** to save the new password and close the Setup Utility.

Changing the supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.
2. Type the original password then press **Enter**.
3. Type a new password then press **Enter**.
4. Retype the password to verify the first entry then press **Enter** again.
5. Press **F10**.
6. Select **Yes** to save the new password and close the Setup Utility.

Removing a supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.
2. Enter the current password then press **Enter**.
3. Press **Enter** twice without entering anything in the password fields.

Setting a user password

1. Use the up/down arrow keys to select Set User Password menu then press **Enter**.

   A password box will appear.
2. Type a password then press **Enter**.

   The password may consist up to six alphanumeric characters (A-Z, a-z, 0-9)
3. Retype the password to verify the first entry then press **Enter** again.
4. Press **F10**.
5. Select **Yes** to save the new password and close the Setup Utility.

Changing the user password

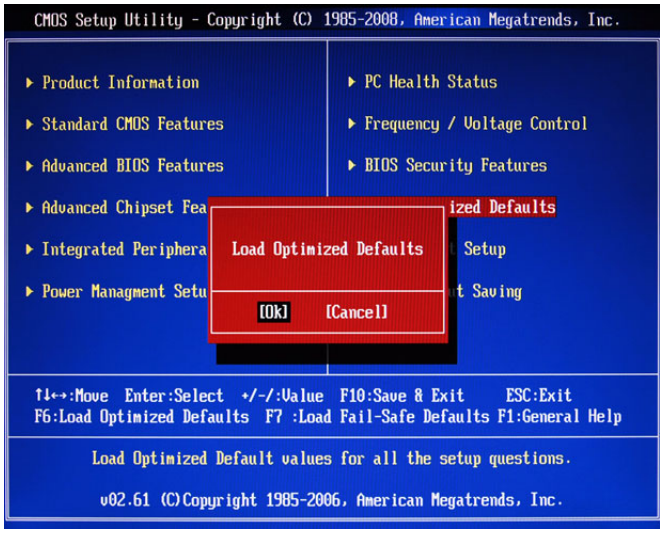
1. Use the up/down arrow keys to select Set User Password menu then press **Enter**.
2. Type the original password then press **Enter**.
3. Type a new password then press **Enter**.
4. Retype the password to verify the first entry then press **Enter** again.
5. Press **F10**.
6. Select **Yes** to save the new password and close the Setup Utility.

Removing a user password

1. Use the up/down arrow keys to select Set User Password menu then press **Enter**.
2. Enter the current password then press **Enter**.
3. Press **Enter** twice without entering anything in the password fields.

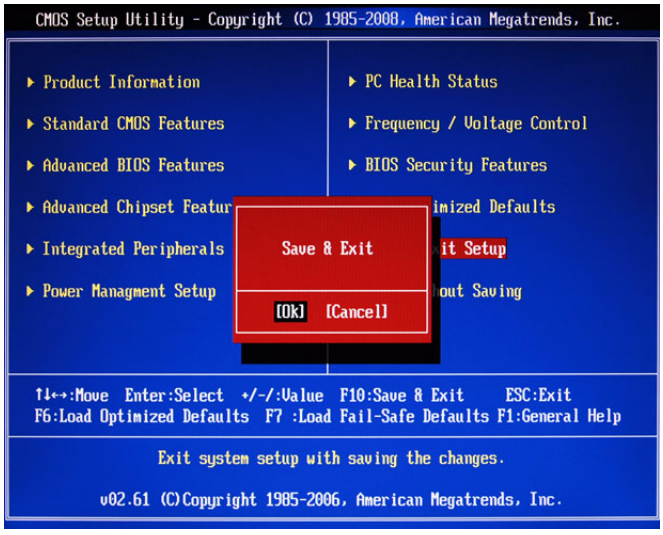
Load Optimized Defaults

The Load Optimized Defaults menu allows you to load the default settings for all BIOS setup parameters. Setup defaults are quite demanding in terms of resources consumption. If you are using low-speed memory chips or other kinds of low-performance components and you choose to load these settings, the system might not function properly.



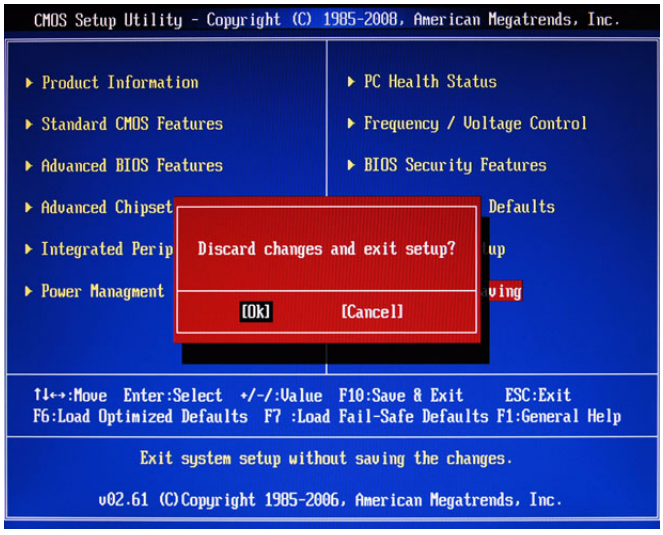
Save & Exit Setup

The Save & Exit Setup menu allows you to save changes made and close the Setup Utility.


CMOS Setup Utility - Copyright (C) 1985-2008, American Megatrends, Inc.
Product Information
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Featur
Integrated Peripherals
Power Managment Setup
PC Health Status
Frequency / Voltage Control
BIOS Security Features
imized Defaults
it Setup
out Saving
Save & Exit
[Ok] [Cancel]
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit ESC:Exit
F6:Load Optimized Defaults F7 :Load Fail-Safe Defaults F1:General Help
Exit system setup with saving the changes.
v02.61 (C)Copyright 1985-2006, American Megatrends, Inc.

Exit Without Saving

The Exit Without Saving menu allows you to discard changes made and close the Setup Utility.



System Disassembly

This chapter contains step-by-step procedures on how to disassemble the desktop computer for maintenance and troubleshooting.

Disassembly Requirements

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Flat-blade screwdriver
- Philips screwdriver
- Hex screwdriver
- Plastic flat-blade screwdriver
- Plastic tweezers

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components.

Pre-disassembly Procedure

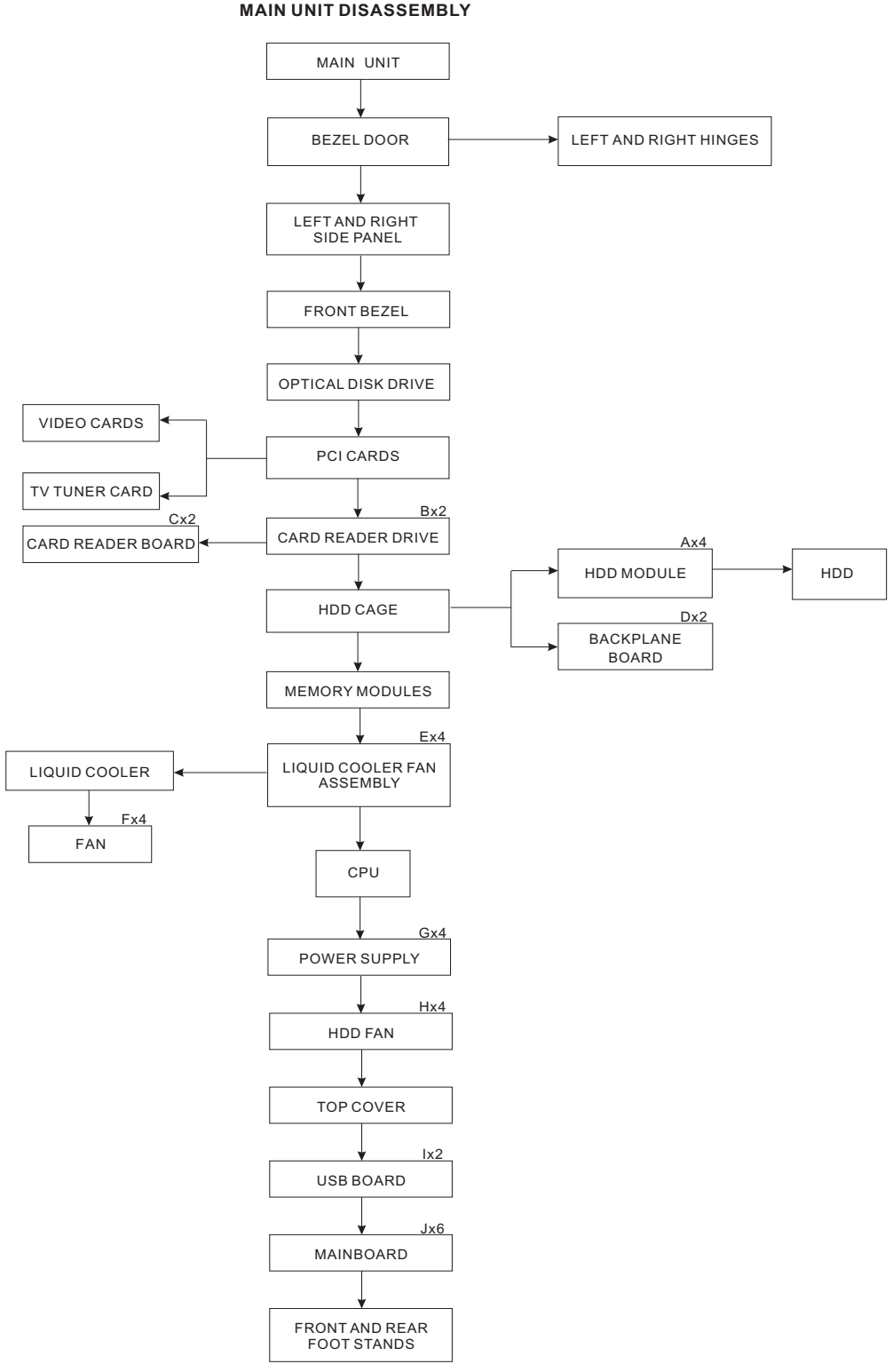
Before proceeding with the disassembly procedure, perform the steps listed below:

1. Turn off the system and all the peripherals connected to it.
2. Unplug the power cord from the power outlets.
3. Unplug the power cord from the system.
4. Unplug all peripheral cables from the system.
5. Place the system unit on a flat, stable surface.

Main Unit Disassembly

External Modules Disassembly Flowchart

The flowchart below gives you a graphic representation on the entire disassembly sequence and instructs you on the components that need to be removed during servicing.



Screw List

	Screw	Part No.
A	HDD carrier screw	86.1AQ36.450
B	Card reader carrier screw	N/A
C	Card reader board screw	N/A
D	M#6-32 L4.6 BZN	86.00J11.A60
E	Liquid cooler screw	86.00J61.767
F	Liquid cooler fan screw	N/A
G	M HEX #6-32 L5 BZN	86.00J59.A60
H	M#6-32 L4.6 BZN	86.00J10.A60
I	M #6-32 L5 BZN	86.00E66.D60
J	MA HEX #6-32 5MM NI	86.2G5B6.013

Removing the Bezel Door

1. Perform the pre-disassembly procedure described on page 30.
2. Grasp the front edge of the bezel door, then tilt up until it is aligned with the top panel.

3. Remove the four screws that hold the door hinges to the right side panel (1).
4. Remove the four screws that hold the door hinges to the left side panel (2).
5. Detach the bezel door with hinges from the system (3).

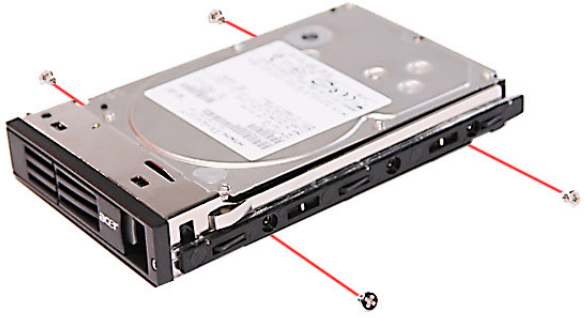
Removing the Hard Disk Drive

1. Remove the bezel door. Refer to the previous section for instructions.
2. Open the drive bay door.

3. Press the HDD carrier latch, then pull the lever down to the fully open position.

4. Pull the carrier out of the drive bay.

5. Place the HDD carrier on a clean, static-free network surface.
6. If you are replacing a hard disk, remove the four screws (A) that secure the hard disk to the carrier.



Screw (Quantity)	Color	Torque	Part No.
HDD carrier screw (4)	Silver	3.5 to 4.5 kgf-cm	N/A

7. Remove the disk from the carrier.

8. Keep the screws for later installation.

Removing the Left Side Panel

1. See “Removing the Bezel Door” on page 33.
2. Release the two panel locks on the rear of the left side panel.

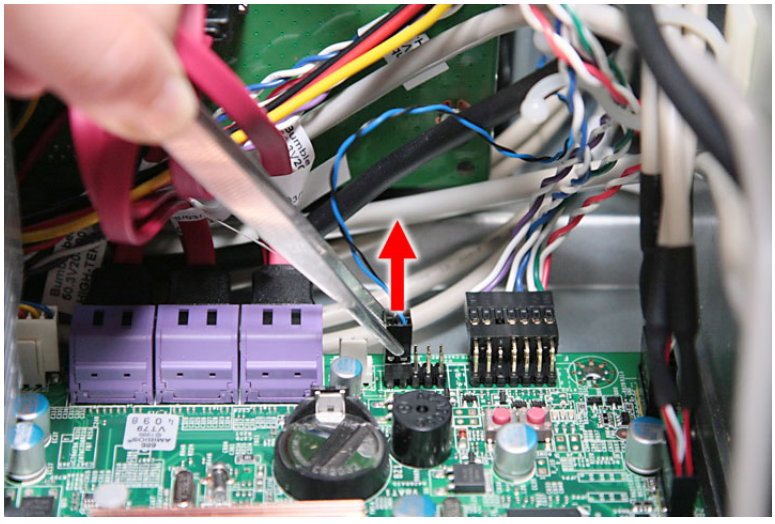
3. Hold the rear edge of the panel and slide the panel towards the rear (1), slightly raise the panel then lift the panel away from the chassis (2).

Removing the Right Side Panel

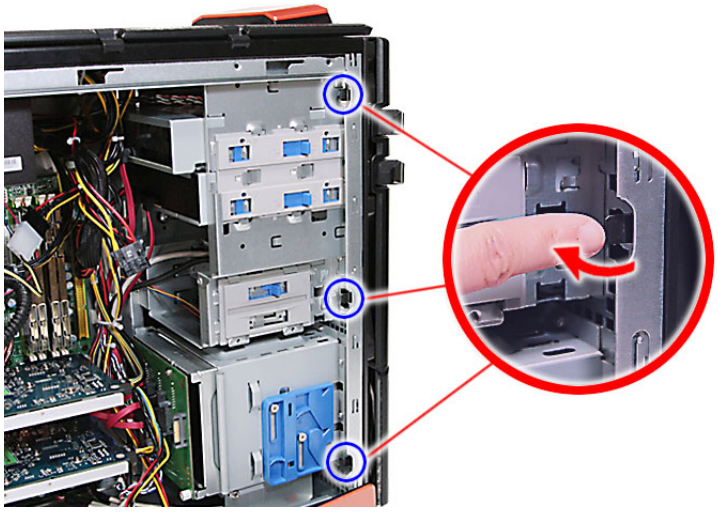
1. See “Removing the Bezel Door” on page 33.
2. Pull the top edge out and slightly lift up to detach the tabs inside the panel (1), then slide the panel towards the rear of the chassis (2).

Removing the Front Bezel

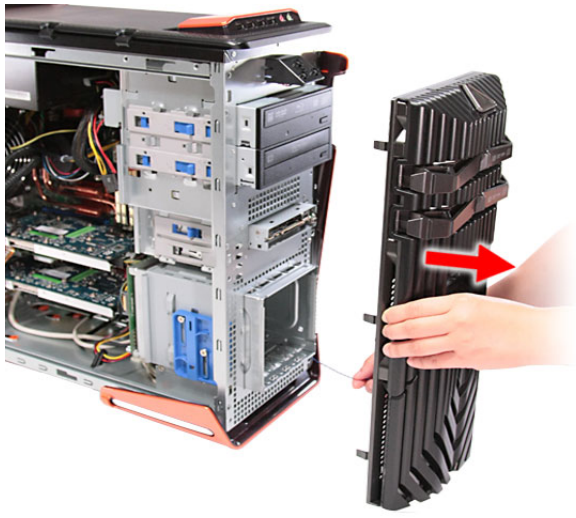
1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. Disconnect the front panel cable from the mainboard.



4. Release the front bezel retention tabs from the chassis interior.

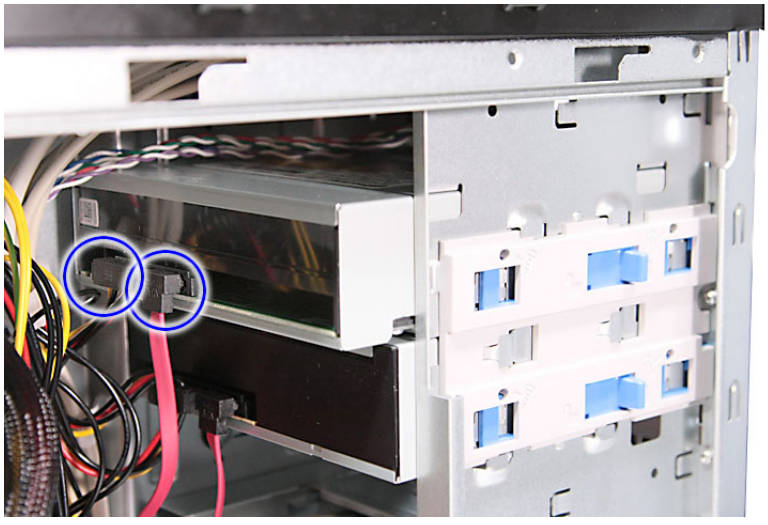


5. Pull the bezel away from the chassis.

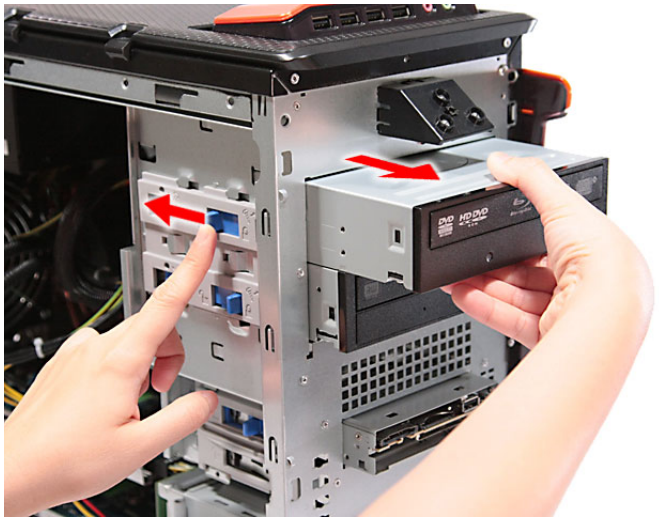


Removing the Optical Drive

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Front Bezel” on page 38.
4. Disconnect the power and data cables from rear of the old drive.

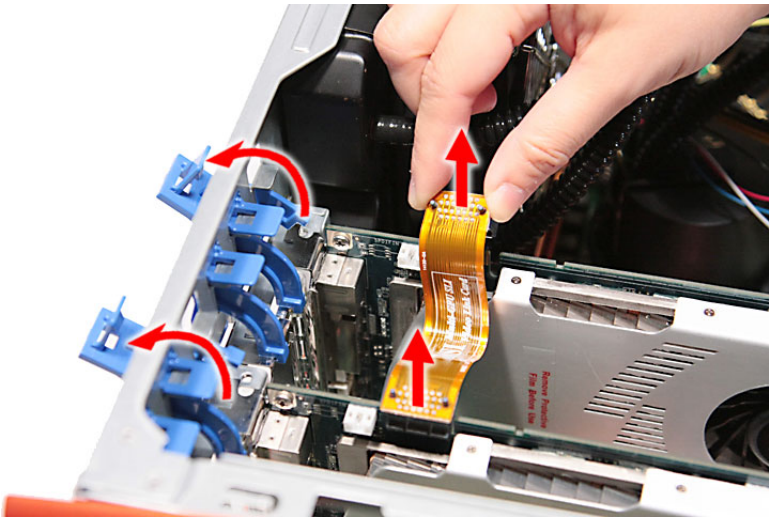


5. Move the release slider of the selected drive to the unlock position, then pull the drive out of the device bay.

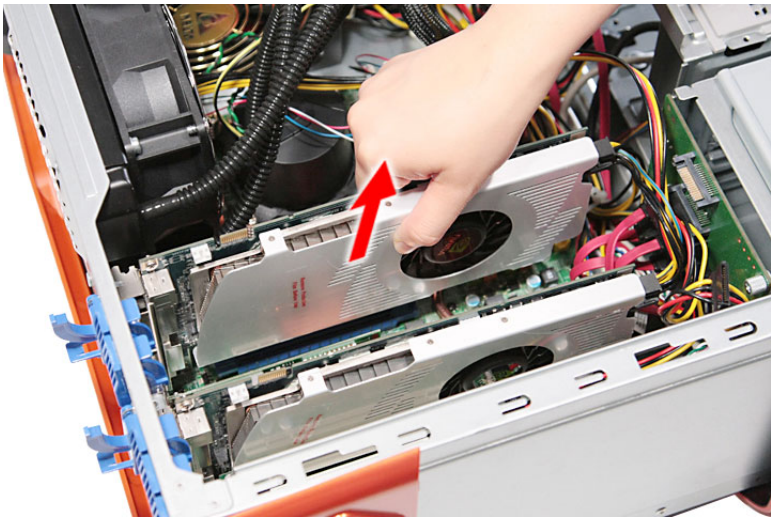


Removing the Video Cards

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. Lay the system on its side (with components showing).
4. Remove the SLI bridge cable from the video cards, then press down on the expansion slot release latch.

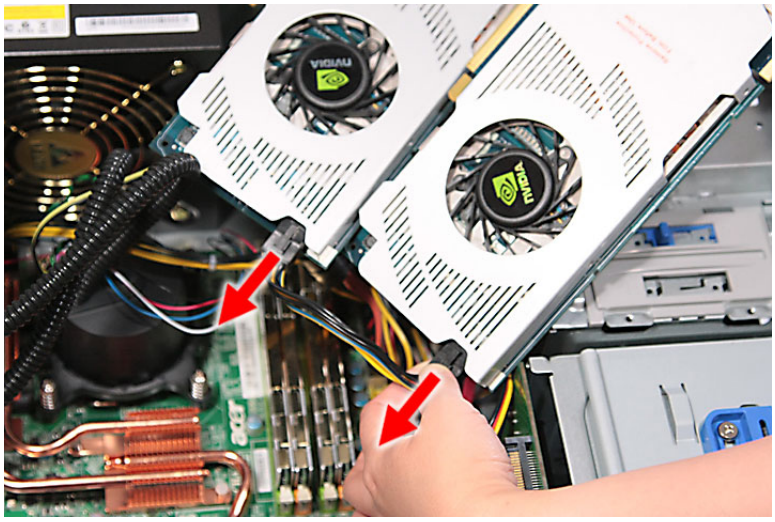


5. Gently pull the card to detach it from the mainboard.



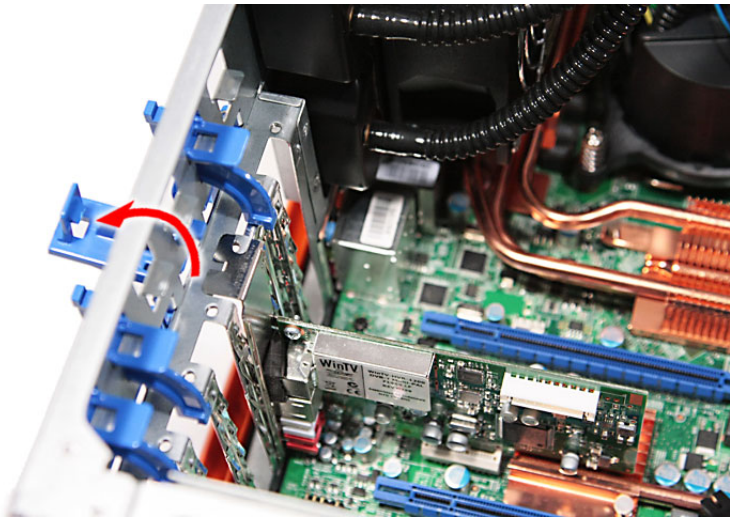
6. Do the same to the other card.

7. Disconnect the power cables from the video cards, then remove the cards.

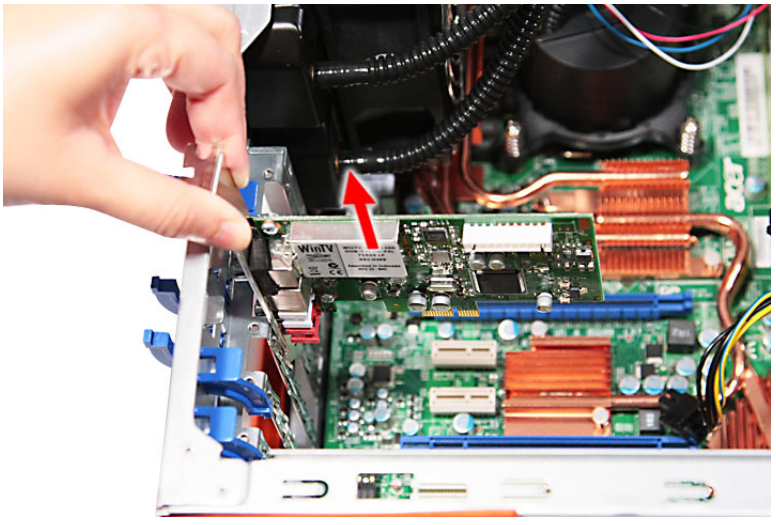


Removing the TV Tuner Card

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Video Cards” on page 41.
4. Press down on the expansion slot release latch.

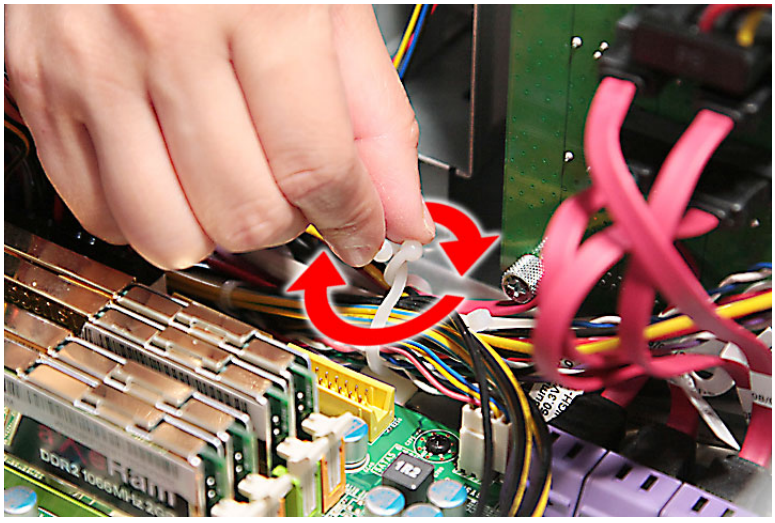


5. Gently pull the card to detach it from the mainboard.

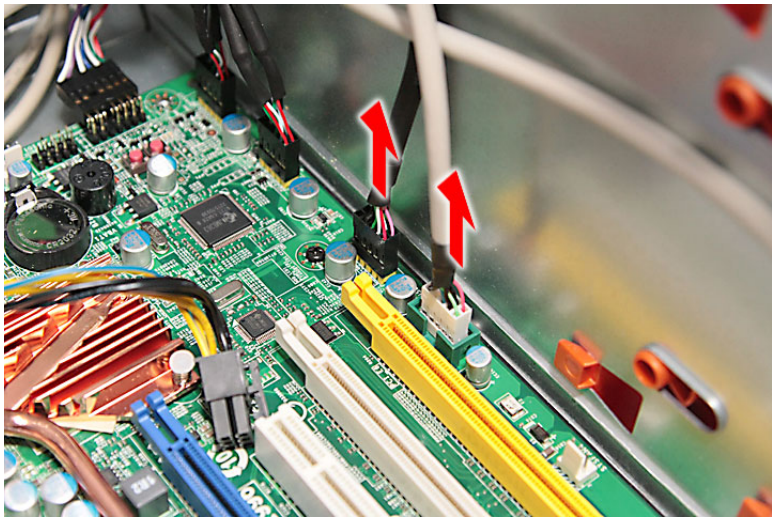


Removing the Card Reader Drive

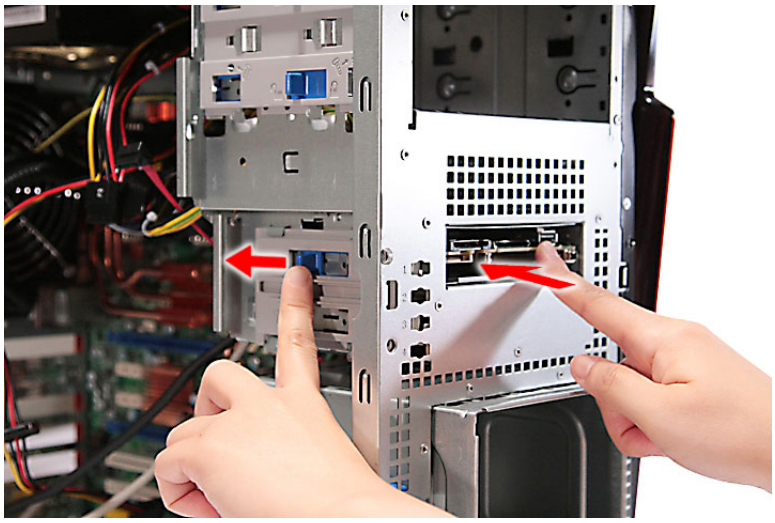
1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Front Bezel” on page 38.
4. Release cables from the retention clip.



5. Disconnect the USB and 1394 cables from the mainboard.



6. Move the release slider to the unlock position and push the module into the bay, then remove it from the chassis.



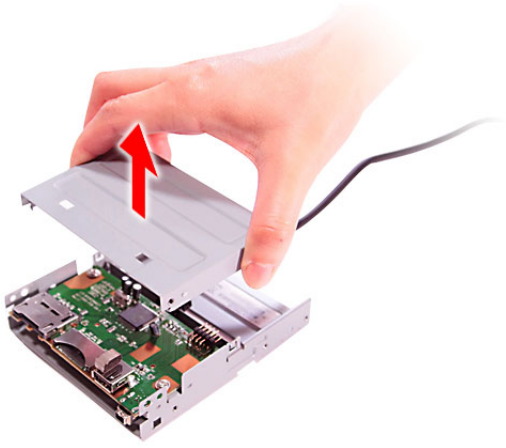
Removing the Card Reader Board

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Front Bezel” on page 38.
4. See “Removing the Card Reader Drive” on page 44.
5. Place the module on a clean, static-free surface.
6. Remove the two screws (B) that secure the cover to the carrier.

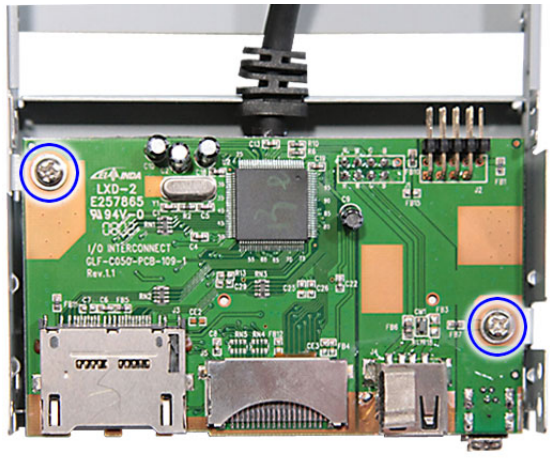
Screw (Quantity)	Color	Torque	Part No.
Card reader carrier screw (2)	Silver	N/A	N/A

7. Disconnect the USB cable from the card reader board.

8. Remove the card reader carrier cover.

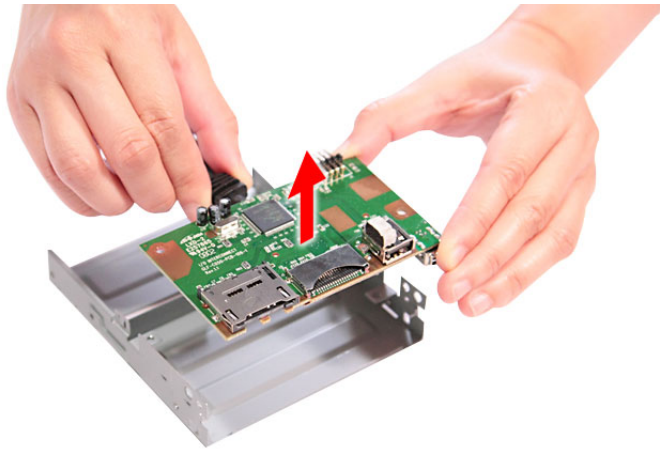


9. Remove the two screws (C) that secure the card reader board to the carrier.



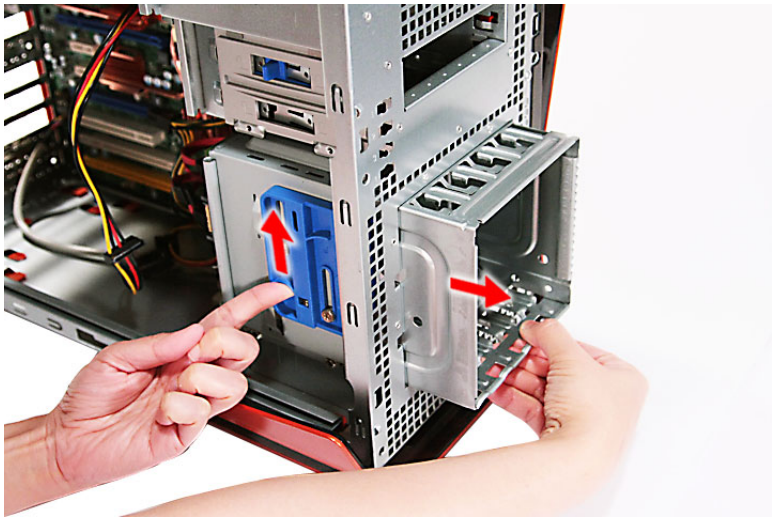
Screw (Quantity)	Color	Torque	Part No.
Card reader board screw (2)	Silver	N/A	N/A

10. Remove the card reader board from the carrier.

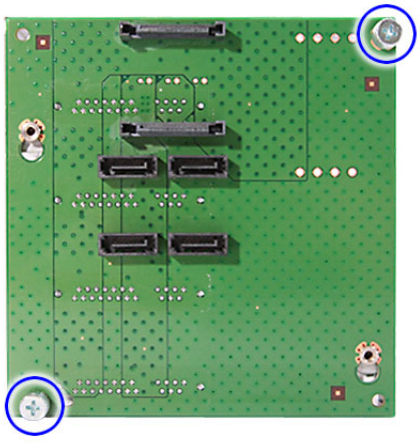


Removing the Backplane Board

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Hard Disk Drive” on page 34.
3. See “Removing the Left Side Panel” on page 36.
4. See “Removing the Front Bezel” on page 38.
5. See “Removing the Video Cards” on page 41.
6. Slide the HDD cage slider up, then pull the cage out of the drive bay.



7. Remove the two screws (D) from the backplane board.



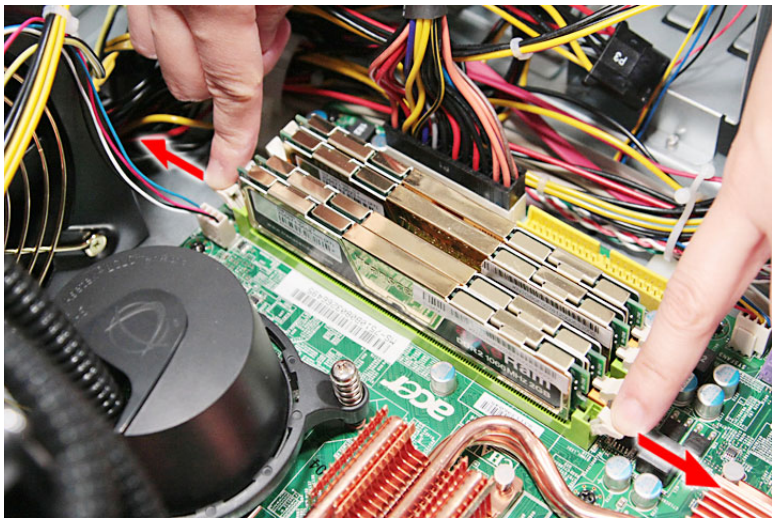
Screw (Quantity)	Color	Torque	Part No.
M#6-32 L4.6 BZN (2)	Silver	3.5 to 4.5 kgf-cm	86.00J11.A60

8. Slide the backplane board forward (1) then remove the board from the HDD cage (2).

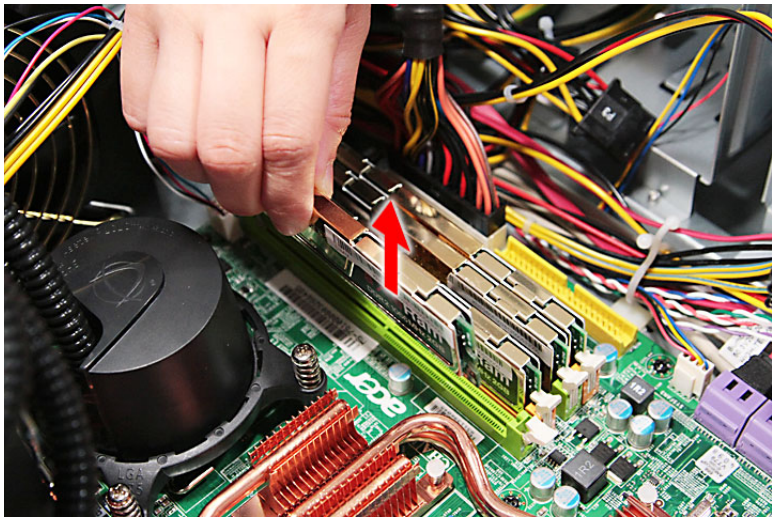
Removing the Memory Modules

IMPORTANT: Before removing any DIMM from the memory board, make sure to create a backup file of all important data.

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. Press the holding clips on both sides of the DIMM slot outward to release the DIMM.



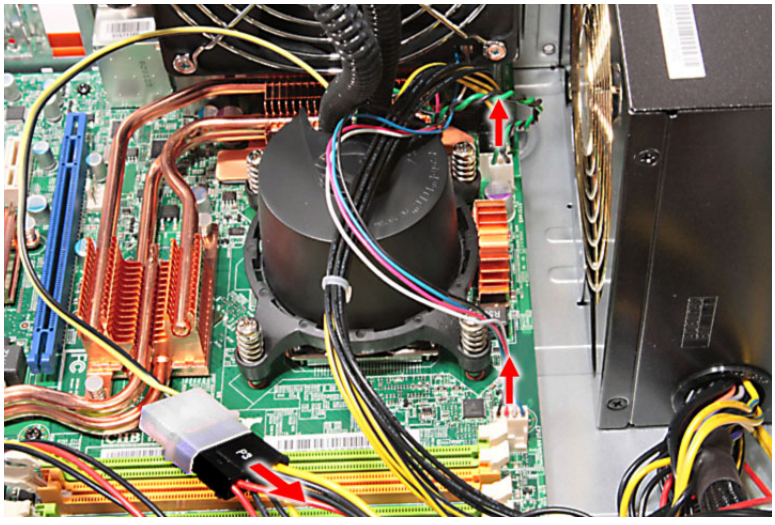
4. Gently pull the DIMM upward and to pull it away from the mainboard.



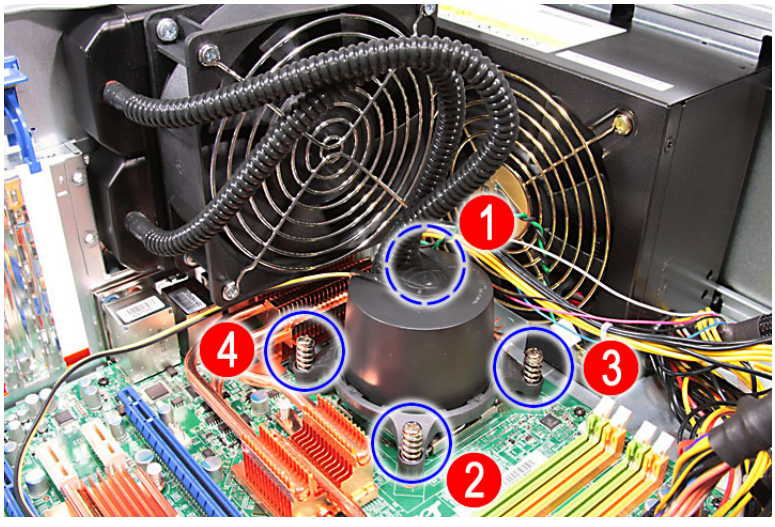
Removing the Liquid Cooler Fan Assembly

WARNING: The heat sink becomes very hot when the system is on. NEVER touch the heat sink with any metal or with your hands.

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Front Bezel” on page 38.
4. Disconnect the power and two fan cables.



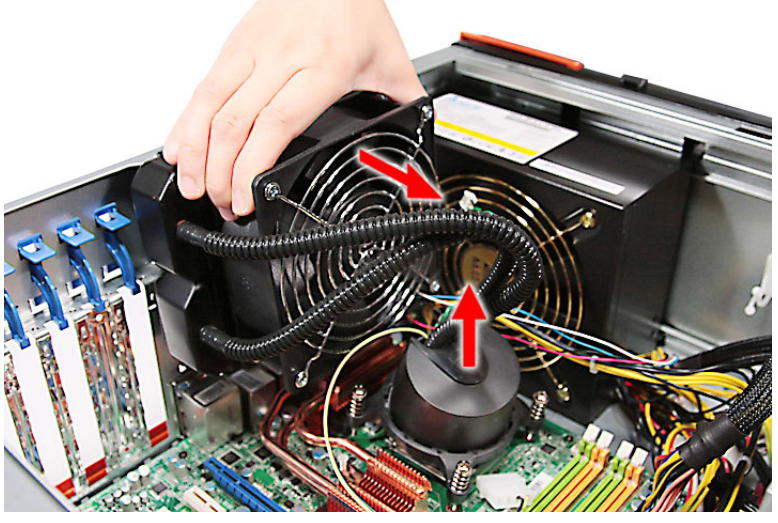
5. Loosen the four screws on the liquid cooler, in the order shown.



6. Remove the four screws (E) securing the fan end of the liquid cooler fan assembly to the chassis.

Screw (Quantity)	Color	Torque	Part No.
Liquid cooler screw (4)	Black	4.5 to 5.5 kgf-cm	N/A

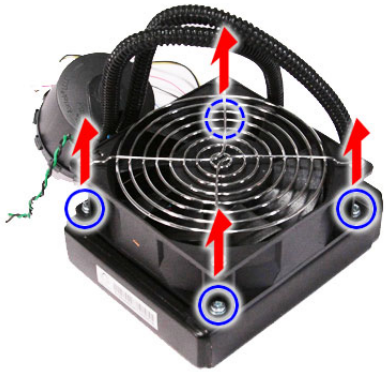
7. Lift the fan and heat exchanger end of the liquid cooler assembly from the chassis, then gently detach the cooler end from the mainboard.



8. Lay cooler on its side—with the thermal patch facing sideways. Do not let the thermal patch touch the work surface.
9. Use an alcohol pad to wipe off the thermal grease from both the liquid cooler and the processor.

Removing the Fan from the Liquid Cooler

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Liquid Cooler Fan Assembly” on page 51.
4. Remove the four screws (F) that secure the fan to the heat exchanger on the liquid cooler fan assembly and store screws and washer for later use, then detach the fan from the cooler.



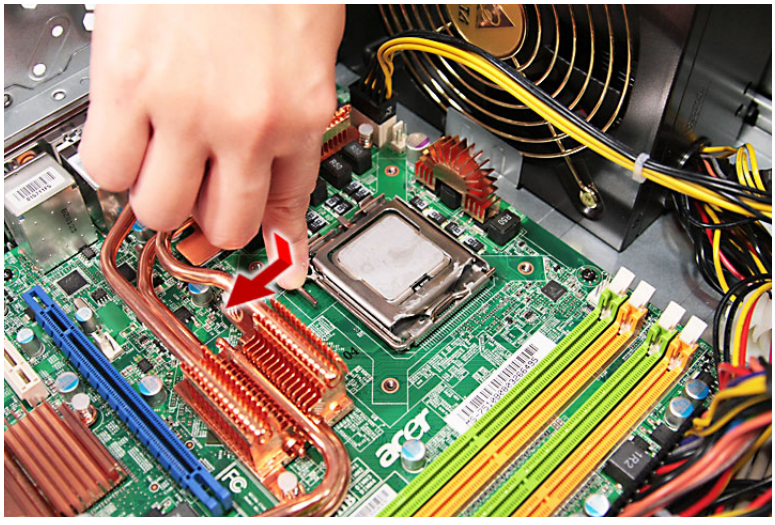
Screw (Quantity)	Color	Torque	Part No.
Liquid cooler fan screw (4)	Silver	4.5 to 5.5 kgf-cm	N/A

Removing the Processor

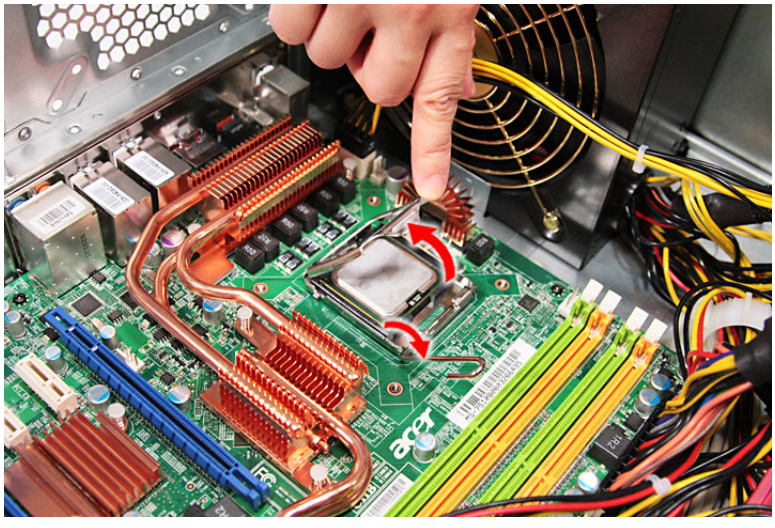
IMPORTANT: Before removing a processor from the mainboard, make sure to create a backup file of all important data.

WARNING: The processor becomes very hot when the system is on. Allow it to cool off first before handling.

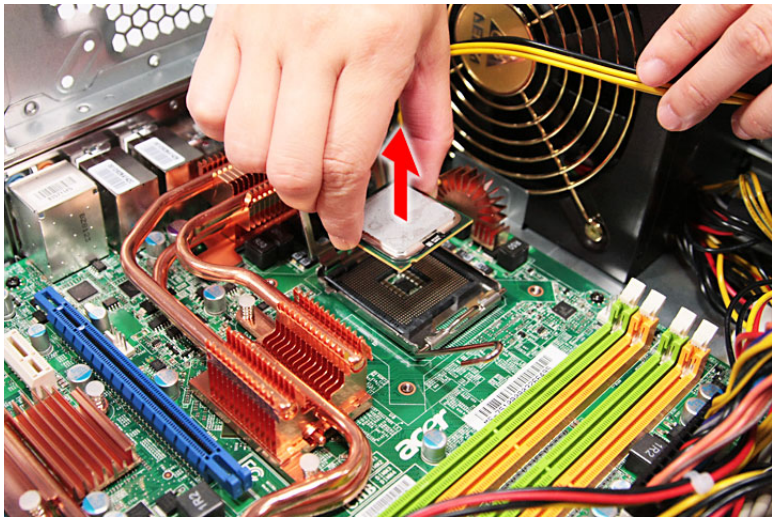
1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Memory Modules” on page 50.
4. See “Removing the Liquid Cooler Fan Assembly” on page 51.
5. Press down to release load lever.



6. Lift the load lever up and open the load plate.



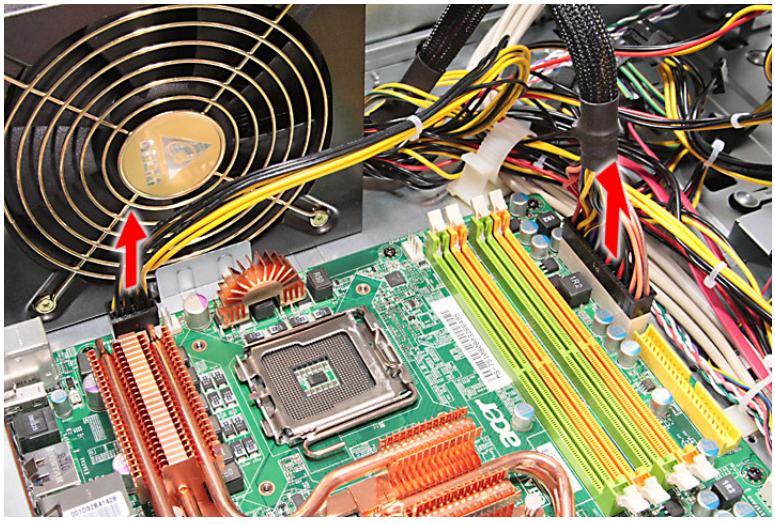
7. Grasp the processor by its edges and lift it out of its socket.



IMPORTANT: If you are going to install a new processor, note the arrow on the corner to make sure the processor is properly oriented over the socket.

Removing the Power Supply

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Front Bezel” on page 38.
4. See “Removing the Optical Drive” on page 40.
5. See “Removing the Video Cards” on page 41.
6. See “Removing the TV Tuner Card” on page 43.
7. See “Removing the Card Reader Drive” on page 44.
8. See “Removing the Backplane Board” on page 48.
9. See “Removing the Memory Modules” on page 50.
10. See “Removing the Liquid Cooler Fan Assembly” on page 51.
11. See “Removing the Processor” on page 54.
12. Release the cables from the retaining clips.
13. Disconnect the power supply cables from the mainboard.



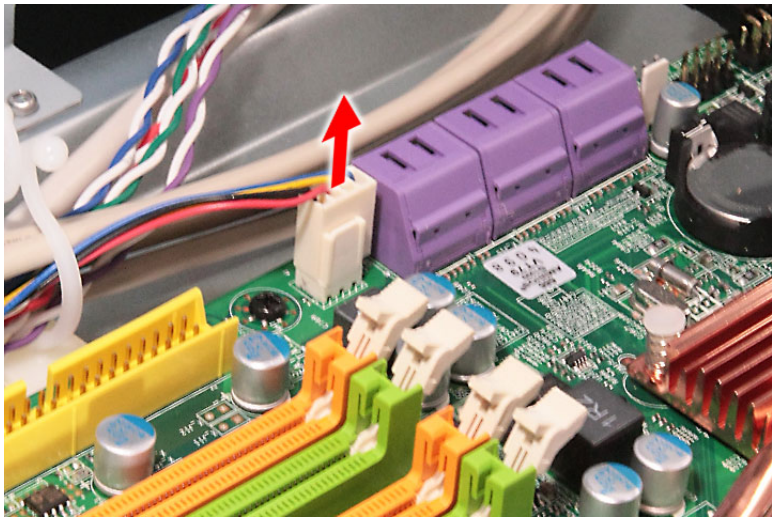
14. Remove the four screws (G) that secure the power supply to the chassis.

Screw (Quantity)	Color	Torque	Part No.
M Hex #6-32 L5 BZN (4)	Black	5.5 to 6.5 kgf-cm	86.00J59.A60

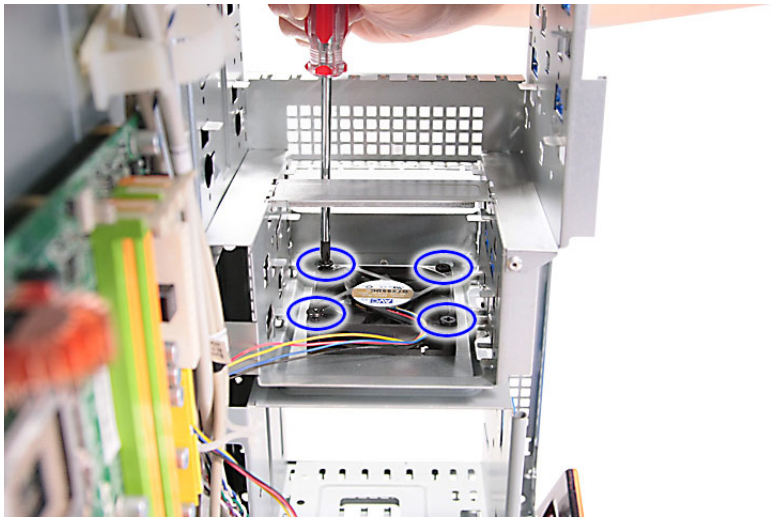
15. Lift the power supply module out of the chassis.

Removing the HDD Fan

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Front Bezel” on page 38.
4. See “Removing the Card Reader Drive” on page 44.
5. Disconnect the fan cable from the mainboard.



6. Remove the four screws (H) that secure the fan to the chassis.

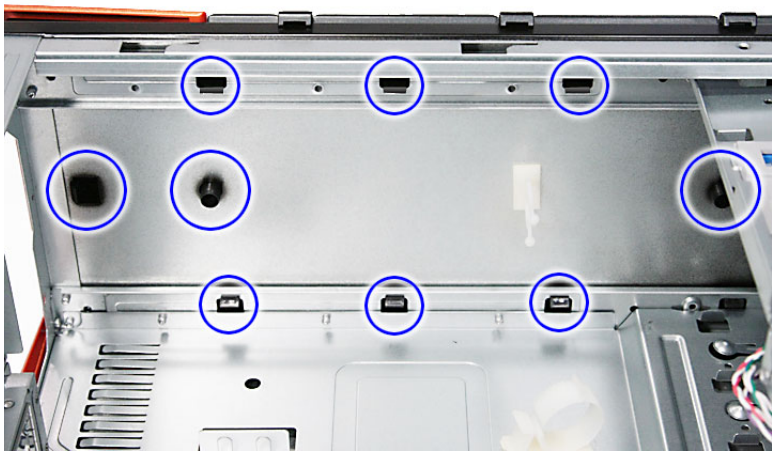


Screw (Quantity)	Color	Torque	Part No.
M#6-32 L20 BZN (4)	Black	N/A	86.00J10.A60

7. Remove the fan from the chassis.

Removing the Top Cover

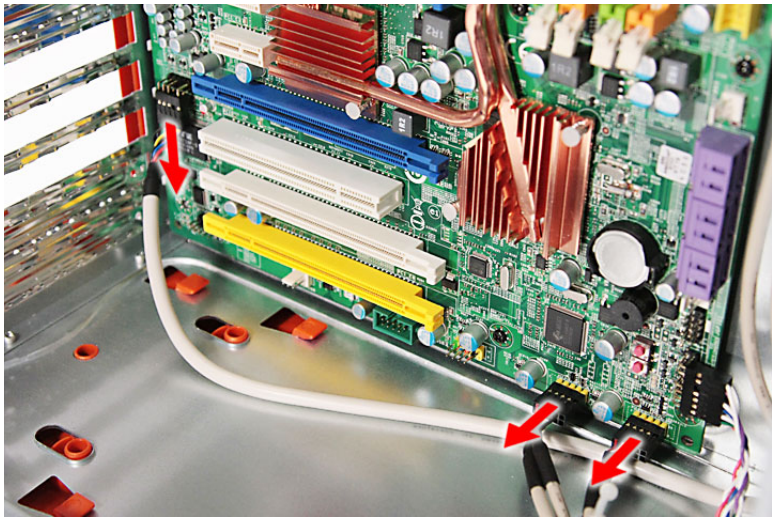
1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. See “Removing the Front Bezel” on page 38.
4. See “Removing the Optical Drive” on page 40.
5. See “Removing the Video Cards” on page 41.
6. See “Removing the TV Tuner Card” on page 43.
7. See “Removing the Card Reader Drive” on page 44.
8. See “Removing the Backplane Board” on page 48.
9. See “Removing the Memory Modules” on page 50.
10. See “Removing the Liquid Cooler Fan Assembly” on page 51.
11. See “Removing the Processor” on page 54.
12. See “Removing the Power Supply” on page 56.
13. Press the top cover tabs to disengage with the slots on the chassis.



14. Remove the top cover.

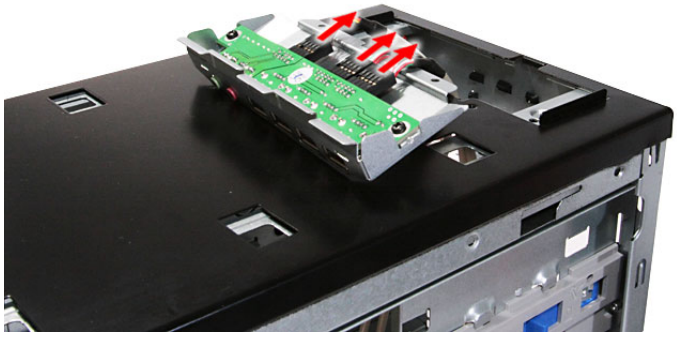
Removing the USB Board

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Optical Drive” on page 40.
3. See “Removing the Video Cards” on page 41.
4. See “Removing the TV Tuner Card” on page 43.
5. See “Removing the Card Reader Drive” on page 44.
6. See “Removing the Backplane Board” on page 48.
7. See “Removing the Memory Modules” on page 50.
8. See “Removing the Liquid Cooler Fan Assembly” on page 51.
9. See “Removing the Processor” on page 54.
10. See “Removing the Power Supply” on page 56.
11. See “Removing the Top Cover” on page 59.
12. Detach the USB and audio cables from the mainboard.

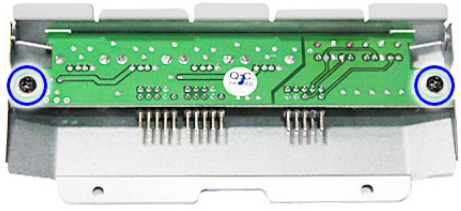


13. Slide and lift the front I/O bracket.

14. Turn it over then detach the cables from the USB board.

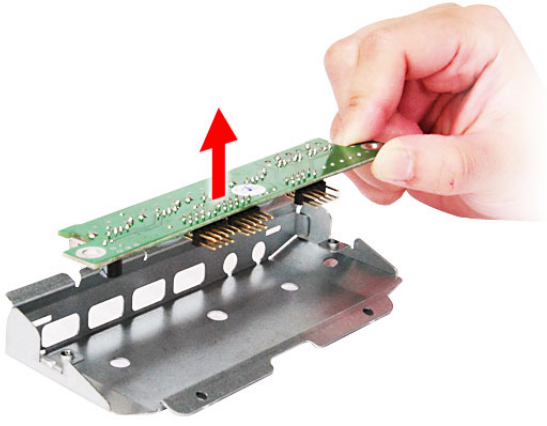


15. Remove the two screws (I) that secure the board to the bracket.



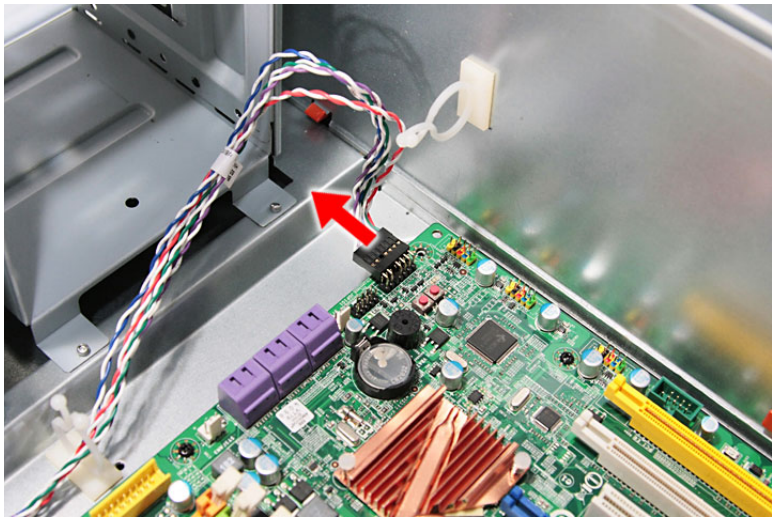
Screw (Quantity)	Color	Torque	Part No.
M #6-32 L5 BZN (2)	Black	N/A	86.00E66.D60

16. Remove the USB board.

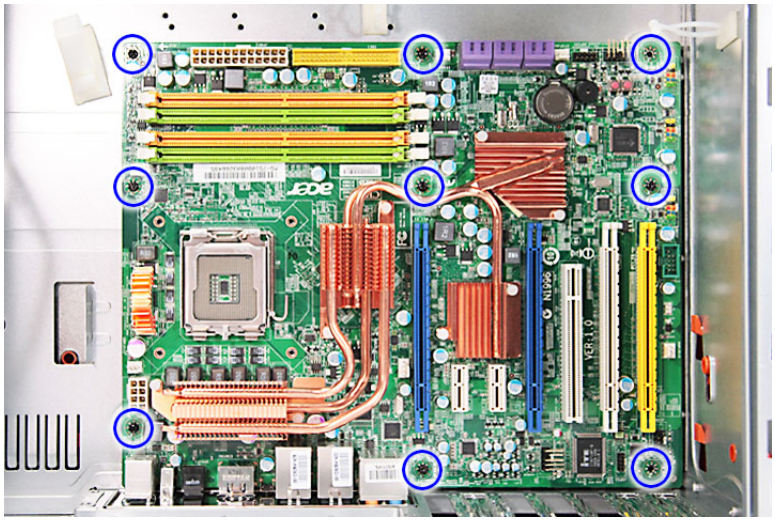


Removing the Mainboard

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Optical Drive” on page 40.
3. See “Removing the Video Cards” on page 41.
4. See “Removing the TV Tuner Card” on page 43.
5. See “Removing the Card Reader Drive” on page 44.
6. See “Removing the Backplane Board” on page 48.
7. See “Removing the Memory Modules” on page 50.
8. See “Removing the Liquid Cooler Fan Assembly” on page 51.
9. See “Removing the Processor” on page 54.
10. See “Removing the Power Supply” on page 56.
11. See “Removing the HDD Fan” on page 58.
12. See “Removing the Top Cover” on page 59.
13. See “Removing the USB Board” on page 60.
14. Disconnect the LED cable from the mainboard.



15. Remove the nine screws (J) that secure the mainboard to the chassis, in the order shown.

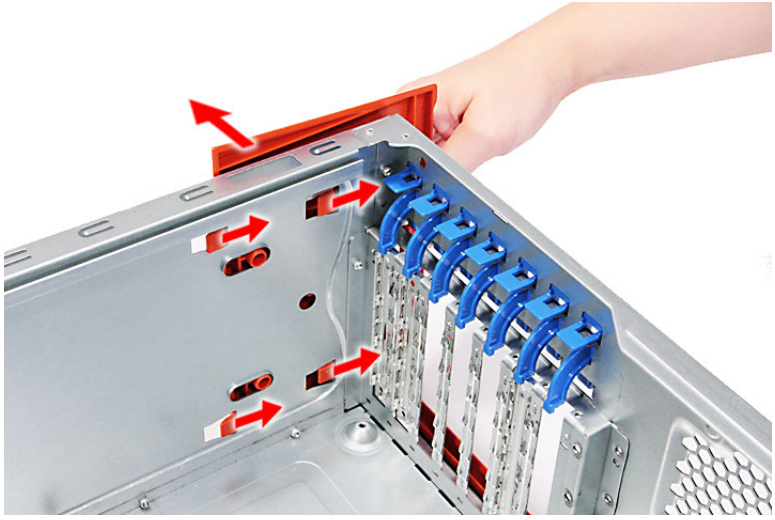


Screw (Quantity)	Color	Torque	Part No.
HEX #6-32 5MM NI (6)	Silver	4.5 to 5.5 kgf-cm	86.2G5B6.013

16. Lift the board from the chassis.

Removing the Front Foot Stand

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. Lay the system on its side (with components showing).
4. Press the tabs on the front foot stand to disengage with the slots on the chassis.
5. Remove the foot stand.



Removing the Rear Foot Stand

1. See “Removing the Bezel Door” on page 33.
2. See “Removing the Left Side Panel” on page 36.
3. Lay the system on its side (with components showing).
4. Press the tabs on the rear foot stand to disengage with the slots on the chassis.
5. Remove the foot stand.

System Troubleshooting

This chapter provides instructions on how to troubleshoot system hardware problems.

Hardware Diagnostic Procedure

IMPORTANT: The diagnostic tests described in this chapter are only intended to test Acer products. Non-Acer products, prototype cards, or modified options can give false errors and invalid system response.

1. Obtain the failing symptoms in as much detail as possible.
2. Verify the symptoms by attempting to recreate the failure by running the diagnostic tests or repeating the same operation.
3. Refer to the table below to determine which corrective action to perform.

Problem	Symptom	Section to Refer to
Power failure	The power indicator does not light up or stay lit.	“Power System Check” on page 68
POST failure	POST does not complete. No beep or error codes issued.	“POST Error and Beep Codes” on page 69.
	POST detects an error and displayed messages on screen.	

System Check Procedures

Power System Check

If the system will power on, skip this section. Refer to System External Inspection.

If the system will not power on, check if the power cable is properly connected to the system and AC source.

System External Inspection

1. Inspect the LED indicators on the front panel, which can indicate the malfunction. For the LED locations and description of their behavior, see “System LED Indicators” on page 6.
2. Make sure that air flow is not blocked.
3. Make sure nothing in the system is making contact that could short out power.
4. If the problem is not evident, continue with System Internal Inspection.

System Internal Inspection

1. Turn off the system and all the peripherals connected to it.
2. Make sure the main power switch is set to the 0 position.
3. Unplug the power cord from the power outlets.
4. Unplug the power cord from the system.
5. Unplug all peripheral cables from the system.
6. Place the system unit on a flat, stable surface.
7. Remove the system covers. For instructions on removing system covers, refer to “System Disassembly” on page 29.
8. Verify that components are properly seated.
9. Verify that all cable connectors inside the system are firmly and correctly attached to their appropriate connectors.
10. Verify that all components are Acer-qualified and supported.
11. Replace the system covers.
12. Power on the system.
13. If the problem with the system is not evident, you can try viewing the POST messages and BIOS event logs during the system startup.

POST Error and Beep Codes

NOTE: Perform the FRU replacement or actions in the sequence shown in FRU/Action column, if the FRU replacement does not solve the problem, put the original part back in the computer. Do not replace a non-defective FRU.

The error messages in the following table indicate the BIOS signals on the screen and the error symptoms classified by functions. If the symptom is not included on the list, please refer to “Undetermined Problems”.

NOTE: Most of the error messages occur during POST. Some of them display information about a hardware device, e.g., the amount of memory installed. Others may indicate a problem with a device, such as the way it has been configured.

NOTE: If the system fails after you make changes in the BIOS Setup Utility menus, reset the computer, enter Setup and install Setup defaults or correct the error.

POST Code (Hex)	POST Routine Description
FFh	Turn On LPC Positive Decode Init At Start POST_FAR
03h	Init At Start POST_FAR
FFh	Allocate EBDA_FAR Init At Start POST_FAR
03h	Cp Init At Start POST_FAR Init At Start POST_FAR
03h	NB_Init At Start POST_FAR Cp Init At Start POST_FAR
03h	SB_Init At Start POST_FAR Cp Init At Start POST_FAR
FFh	SB PCIE_Init At Start POST_FAR SB_Init At Start POST_FAR
03h	OEM_Init At Start POST_FAR Cp Init At Start POST_FAR
FFh	OEM BOARD_A_Cp Init At Start POST_FAR Cp Init At Start POST_FAR
04h	Init CMOS_FAR
FFh	Init CMOS Based Data_FAR Init CMOS_FAR
FFh	Disable Smithfield TM2_FAR Init CMOS_FAR
FFh	Init PIC 8259_FAR Init INT System_FAR
05h	Init INT System_FAR
06h	Init Timer 8254_FAR Init INT System_FAR
FFh	Install POST INT 1Ch Handler_FAR Init Timer 8254_FAR
FFh	OEM BOARD_B_Init CPU_FAR Init CPU_FAR
07h	init_bup6_data_area_FAR Init CPU_FAR
07h	Fixup CPU Post PTR_FAR Init CPU_FAR

POST Code (Hex)	POST Routine Description
08h	Init CPU_FAR
FFh	OEM BOARD_B_Init KBC8042_FAR Init KBC8042_FAR
FFh	KBC BatTest_FAR Init KBC8042_FAR
FFh	Program KBC Command Byte_FAR Init KBC8042_FAR
0Ah	Init KBC8042_FAR Init Input Devices_FAR
0Bh	Detect PS2 Mouse_FAR Init KBC8042_FAR
0Ch	Detect PS2 KeyBoard_FAR Init KBC8042_FAR
FFh	OEM BOARD_A_OEM_ReCalcCPUFreq_FAR Init Input Devices_FAR
0Eh	Init Input Devices_FAR
FFh	Check Install POST INT09hHandler_FAR Init Input Devices_FAR
13h	Cp Init At EarlyPOST_FAR; Global Device Init At Early POST_FAR
13h	NB_Init At Early POST_FAR Cp Init At Early POST_FAR
FFh	NB PCIE_Init At Early POST_FAR NB_Init At Early POST_FAR
C1h	SB_Init At Early POST_FAR Cp Init At Early POST_FAR
FFh	SB_Fill Device SubVenDevID_FAR SB_Init At Early POST_FAR
FFh	SB PCIE_Init At Early POST_FAR SB_Init At Early POST_FAR
C2h	OEM_Init At Early POST_FAR Cp Init At Early POST_FAR
FFh	OEM BOARD_A_OEM_Init At Early POST_FAR OEM_Init At Early POST_FAR
FFh	EPP_Dram_Voltage OEM_Init At Early POST_FAR
FFh	CER_CHECK_S4_STATE OEM_Init At Early POST_FAR
20h	Smi Init At Early Post_FAR Cp Init At Early POST_FAR
FFh	BR04_INIT_FAR Smi Init At Early Post_FAR
FFh	far USB Port_Enable USB In Chipset Cp Init At Early POST_FAR
FFh	far USB Reserve Data Area far USB Port_Enable USB In Chipset

POST Code (Hex)	POST Routine Description
FFh	CRB_Init At Early POST_FAR Cp Init At Early POST_FAR
FFh	Init GPNV Area_FAR Init BIOS Modules_FAR
FFh	Process SMBIOS Module_far Init GPNV Area_FAR
FFh	Init Language Modules_FAR Init BIOS Modules_FAR
FFh	Init Osb CMOS_FAR Init Silent Logo Module_FAR
FFh	Init Silent Logo Module_FAR Init BIOS Modules_FAR
FFh	Save OEM LOGO Size_FAR Init Silent Logo Module_FAR
24h	Init BIOS Modules_FAR Global Device Init At Early POST_FAR
FFh	Add IOITE8718ToMB Resources_FAR DIM Device Init At Early POST_FAR
FFh	OEM BOARD_B_DIM Device Init At Early POST_FAR DIM Device Init At Early POST_FAR
2Ah	DIM Device Init At Early POST_FAR Global Device Init At Early POST_FAR
FFh	OEM BOARD_A_DIM Device Init At Early POST_FAR DIM Device Init At Early POST_FAR
FFh	Enable Post Extended Memory Manager_FAR DIM Device Init At Early POST_FAR
FFh	far SIOITE8718 Power Failure State DIM Device Init At Early POST_FAR
FFh	MCP_pci_hb_program_limits_FAR DIM Device Init At Early POST_FAR
2Ch	Global Device Init At Early POST_FAR
FFh	Init Video_FAR Init Output Devices_FAR
2Eh	InitOutputDevices_FAR
FFh	No Output Device Error_FAR Init Output Devices_FAR
31h	Init ADM Driver_FAR Init Output Devices_FAR
33h	Init Silent Boot Module_FAR; DisplayBIOSInfo_FAR
FFh	ADM Set Text Display Window_FAR Display BIOS Info_FAR
FFh	Check_ACPI_S4_Flag_FAR Display BIOS Info_FAR
37h	Display BIOS Info_FAR
FFh	Set Initial Display Mode_FAR Display BIOS Logo_FAR

POST Code (Hex)	POST Routine Description
FFh	FLASH Recovery From New ROM_FAR Display BIOS Logo_FAR
FFh	OEM BOARD_R_Display Sign On Msg_FAR Display Sign On Msg_FAR
FFh	OEM BOARD_R_Display CPU Info_FAR Display CPU Info_FAR
FFh	Display CrLf_FAR Display CPU Info_FAR
37h	Cp Display BIOS Info_FAR Display BIOS Info_FAR
37h	NB_Display BIOS Info_FAR Cp Display BIOS Info_FAR
FFh	OEM BOARD_R_Display Memory Info_FAR NB_Display BIOS Info_FAR
37h	SB_Display BIOS Info_FAR Cp Display BIOS Info_FAR
37h	OEM_Display BIOS Info_FAR Cp Display BIOS Info_FAR
FFh	Check ROM SIP Overwrite_FAR Cp Display BIOS Info_FAR
FFh	C72_Check Gpu Loc_FAR Cp Display BIOS Info_FAR
FFh	NVMM_Display BIOS Info_FAR Cp Display BIOS Info_FAR
FFh	Display Setup Key Msg_FAR Display BIOS Info_FAR
FFh	OEMBOARD_A_Display BIOS Info_FAR Display BIOS Info_FAR
FFh	OC_Default_Display BIOS Info_FAR OEM BOARD_A_Display BIOS Info_FAR
38h	DIM Device Init At Mid POST_FAR Global Device Init At Mid POST_FAR
FFh	far SIOITE8718HHM Common Register Init DIM Device Init At Mid Post_FAR
FFh	farSIOITE8718HHM Auto Fan1 Control farSIOITE8718HHM Common Register Init
FFh	farSIOITE8718HHM Auto Fan2 Control farSIOITE8718HHM Common Register Init
FFh	farSIOITE8718HHM Auto Fan3 Control farSIOITE8718HHM Common Register Init
FFh	farSIOITE8718HHM Auto Fan Version Control farSIOITE8718HHM Common Register Init
FFh	Simple_SmartGuardian_func farSIOITE8718HHM Common Register Init
FFh	Set_CPU_SmartFan_Curve farSIOITE8718HHM Common Register Init

POST Code (Hex)	POST Routine Description
FFh	CPU_Special_Do farSIOITE8718HHM Common Register Init
FFh	u6262_B_CpInit At Early farSIOITE8718HHM Common Register Init
FFh	Hardware_security_FAR farSIOITE8718HHM Common Register Init
FFh	Special_Marvel_PME_Patch farSIOITE8718HHM Common Register Init
FFh	far Enable USB Data Area far Init USB HC
FFh	far Init USB HC DIM Device Init At Mid POST_FAR
FFh	Check Install POST INT 09h Handler_FAR far Init USB HC
FFh	Validate Attached USB Mass Devices far Init USB HC
FFh	By Pass DMAC8237Test_FAR DMAC8237Test_FAR
39h	Init DMAC8237_FAR Global Device Init At Mid POST_FAR
3Ah	Init RTC_FAR Global Device Init At Mid POST_FAR
FFh	OEMBOARD_B_Init System RAM_FAR Init System RAM_FAR
FFh	Check Memory Above 4GB_FAR Init System RAM_FAR
FFh	Display 4GB Plus System RAM Size_FAR Display System RAM Size_FAR
FFh	Display CrLF_FAR Init System RAM_FAR
3Ch	Cp Init At Mid POST_FAR Global Device Init At Mid POST_FAR
3Ch	NB_Init At Mid POST_FAR Cp Init At Mid POST_FAR
3Ch	SB_Init At Mid POST_FAR Cp Init At Mid POST_FAR
FFh	Program 1394 Guid_FAR SB_Init At Mid POST_FAR
3Ch	OEM_Init At Mid POST_FAR Cp Init At Mid POST_FAR
FFh	Disable_Onboard Lan_by_item OEM_Init At Mid POST_FAR
40h	Global Device Init At Mid POST_FAR
FFh	Detect Parallel Ports_FAR Global Device Init At Mid POST_FAR

POST Code (Hex)	POST Routine Description
FFh	Detect Serial Ports_FAR Global Device Init At Mid POST_FAR
FFh	Detect Coprocessor_FAR Global Device Init At Mid POST_FAR
52h	Detect System RAM_FAR Global Device Init At Mid POST_FAR
60h	Init KB CAt Mid POST_FAR Global Device Init At Mid POST_FAR
FFh	Clear BIOS Version Info_FAR Init IPL Devices_FAR
FFh	far Display USB Devices Clear BIOS Version Info_FAR
75h	Setup Int13 Before Init_FAR Init IPLDevices_FAR
FFh	Init PnP ATA Data_FAR Setup Int13 Before Init_FAR
FFh	OEM BOARD_B_init_ata_channel_info_FAR init_ata_channel_info_FAR
FFh	init_ata_channel_info_FAR Init PnP ATA Data_FAR
FFh	reset ide controllers_FAR init_ata_channel_info_FAR
FFh	check_presence_of_atapi_devices_FAR reset ide controllers_FAR
FFh	OEMBOARD_A_check_presence_of_atapi_devices_FAR check_presence_of_atapi_devices_FAR
FFh	aquire drive data_FAR check_presence_of_atapi_devices_FAR
FFh	retf_dummy; init_int13_far
FFh	Save Display Mode_FAR Init IPL Devices_FAR
78h	BBS Init_FAR Init IPL Devices_FAR
FFh	Init BAID Opt ROM_FAR Init IPL Devices_FAR
FFh	Init PCI Opt ROMs_FAR Init IPL Devices_FAR
FFh	Init ISA Opt ROMs_FAR InitIPLDevices_FAR
FFh	Init ISA PnP Opt ROMs_FAR Init IPL Devices_FAR
FFh	farSIOITE8718 Check floppy Drive Init ISA PnP Opt ROMs_FAR
FFh	Add Static IPL Device Objects To BBS_FAR Init IPL Devices_FAR

POST Code (Hex)	POST Routine Description
FFh	Get Last Sys Config GPNV_FAR Init IPL Devices_FAR
FFh	BBS Build Tables_FAR Init IPL Devices_FAR
FFh	Store New Sys Config GPNV_FAR Init IPL Devices_FAR
FFh	BBS Connect Drives_FAR Init IPL Devices_FAR
FFh	Restore Shadow State_FAR Init IPL Devices_FAR
FFh	BBS Finale_FAR Init IPL Devices_FAR
FFh	Restore Display Mode_FAR Init IPL Devices_FAR
FFh	SB_Before_Setup_Check_VT Init IPL Devices_FAR
78h	Init IPL Devices_FAR
84h	Log BIOS Errors_FAR Process POST Errors_FAR
FFh	Process SMBIOS Module Late Post_far Process POST Errors_FAR
85h	Process POST Errors_FAR
FFh	ACER_Check Boot Password_FAR Check Boot Password_FAR
FFh	Cpu Prepare For Cmos Setup_FAR Process CMOS Setup Request_FAR
87h	Process CMOS Setup Request_FAR Process POST Errors_FAR
FFh	Freeze Drive_FAR Process CMOS Setup Request_FAR
FFh	Set BDA Timer Count_FAR Global Device Init At LatePOST_FAR
FFh	Prepare E820 Mem Info Objects_FAR Prepare E820 Table_FAR
FFh	NB_Prepare 4GB Plus E820 Mem Info Object_FAR Prepare 4GB Plus E820 Mem Info Object_FAR
FFh	Prepare Dmi Edit Smi Mem Info Objects_FAR Prepare E820 Mem Info Objects_FAR
FFh	Prepare ACPI E820 Mem Info Objects_FAR Prepare E820 Mem Info Objects_FAR
8Dh	build_acpi_table_FAR Prepare ACPI E820 Mem Info Objects_FAR
FFh	build_sb_acpi_table_FAR build_acpi_table_FAR
FFh	build_awmi_acpi_table_FAR build_acpi_table_FAR

POST Code (Hex)	POST Routine Description
FFh	Prepare E820Table_FAR Global Device Init At Late POST_FAR
8Ch	Global Device Init At LatePOST_FAR
8Ch	Cp Init At Late POST_FAR Global Device Init At Late POST_FAR
8Ch	NB_Init At Late POST_FAR Cp Init At Late POST_FAR
8Ch	SB_Init At Late POST_FAR Cp Init At Late POST_FAR
8Ch	OEM_Init At Late POST_FAR Cp Init At Late POST_FAR
FFh	OEM BOARD_A_Cp Init At Late POST_FAR Cp Init At Late POST_FAR
8Eh	Program Peripheral Parameters_FAR Global Device Init At Late POST_FAR
FFh	Fixed Nvida MP Table In PicMode_FAR Build MP Table_FAR
FFh	Build MP Table_FAR Generate Final ESCD_FAR
8Fh	Generate Final ESCD_FAR Global Device Init At Late POST_FAR
90h	Smi Init At Late Post_FAR Global Device Init At Late POST_FAR
FFh	post_init_eist_far Smi Init At Late Post_FAR
A1h	Prepare System For OS_FAR
FFh	Process SMBIOS Module Late Post_far Prepare Run time Image_FAR
A2h	Prepare Run time Image_FAR Prepare System For OS_FAR
FFh	Init MSIR QRouting Table_FAR Prepare Runtime Image_FAR
A4h	Prepare RT LangModule_FAR Prepare Runtime Image_FAR
FFh	Acer_CheckIf_DisplayPopupMenu_FAR Display Popup Menu_FAR
FFh	Disable Config Display For OEM Mode_FAR Check Display SystemConfig_FAR
A7h	Check Display SystemConfig_FAR Prepare System For OS_FAR
A9h	Wait For User After Config Display_FAR Prepare System For OS_FAR
FFh	Disable_Usb11_Usb20_With BSU Setting Wait For User After Config Display_FAR
FFh	SmartGuardian_Smooth_func Wait For User After Config Display_FAR

POST Code (Hex)	POST Routine Description
AAh	Uninstall POST INT 1Ch Handler_FAR Prepare System For OS_FAR
FFh	Clear KBD Buffer_Far Uninstall POST INT09h Handler_FAR
FFh	SB_Clear KBD Buffer_FAR Clear KBD Buffer_Far
FFh	Uninstall POST INT09h Handler_FAR Prepare System For OS_FAR
ABh	BBS BeforeI19_FAR Uninstall POST INT09h Handler_FAR
FFh	ACPIS4Set Boot Drive_FAR BBS BeforeI19_FAR
FFh	OEM BOARD_A_Prepare System For OS_FAR Prepare System For OS_FAR
FFh	Log BIOS Errors_FAR Init At End POST_FAR
ACh	Cp Init At End POST_FAR Init At End POST_FAR
ACh	NB_Init At End POST_FAR Cp Init At End POST_FAR
ACh	SB_Init At End POST_FAR Cp Init At End POST_FAR
ACh	OEM_Init At End POST_FAR Cp Init At End POST_FAR
FFh	ACER_RECORD_WMI_BUFFER OEM_Init At End POST_FAR
FFh	De Init OEM Logo_FAR Cp Init At End POST_FAR
FFh	far Prepare USB For OS Cp Init At End POST_FAR
FFh	far USB Boot Override Cp Init At End POST_FAR
FFh	OEM BOARD_A_Cp Init At End POST_FAR Cp Init At End POST_FAR
FFh	JMB 38x_A_Cp Init At End POST_FAR Cp Init At End POST_FAR
FFh	Reset ACPITbls4 End_ptr_FAR save_acpi_context_FAR
B1h	save_acpi_context_FAR Cp Init At End POST_FAR
FFh	De Init ADM Module_FAR Init At End POST_FAR
FFh	Clear_ACPI_S4_Flag_FAR Init At End POST_FAR
FFh	Allocate Stack For AP_FAR Init At End POST_FAR

POST Code (Hex)	POST Routine Description
FFh	Mrm Save Cpu Msr Context_FAR Init At End POST_FAR
FFh	P4 Save Cpu Msr Context_FAR Init At End POST_FAR
FFh	ATAC_Init Before Int19_FAR Init At End POST_FAR
FFh	Init At End POST_FAR

Online Support Information

This section describes online technical support services available to help you repair the desktop computer.

If you are a distributor, dealer, ASP or TPM, please refer your technical queries to your local Acer branch office. Acer Branch Offices and Regional Business Units may access our website at http://global.acer.com/support/index. However some information sources will require a user ID and password. These can be obtained directly from Acer CSD Taiwan.

Acer's Website offers you convenient and valuable support resources whenever you need them.

In the Support & Downloads tab you can download information materials for all of Acer notebook, desktop and server models including:

- Service guides for all models
- User's manuals
- Training materials
- BIOS updates
- Software utilities
- Spare parts lists
- Technical Announcement Bulletins (TABs)

For these purposes, we have included an Acrobat File to facilitate a hassle-free downloading of our technical materials.

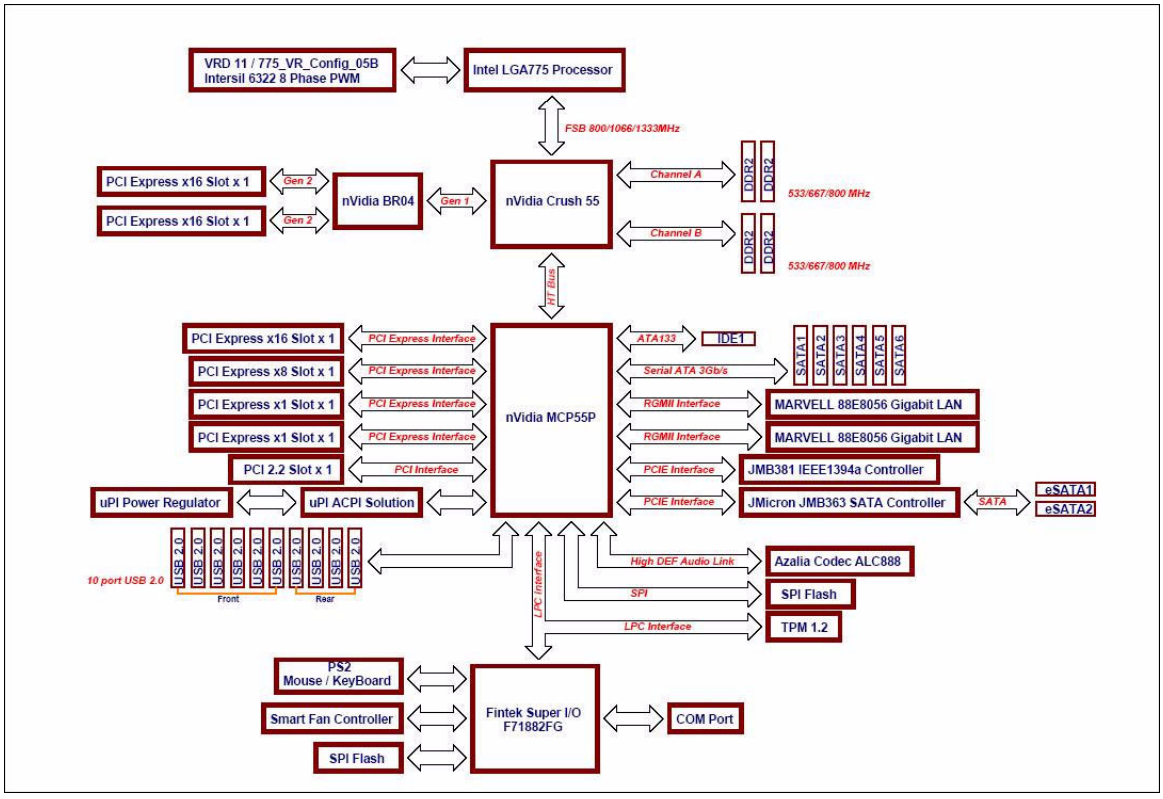
The following are also available in the Support & Downloads tab:

- Detailed information on Acer's International Traveler's Warranty (ITW)
- Returned material authorization procedures
- An overview of all the support services we offer, accompanied by a list of telephone, fax, and email contacts for all your technical queries.

We are always looking for ways to optimize and improve our services, so if you have any suggestions or comments, please do not hesitate to communicate these to us.

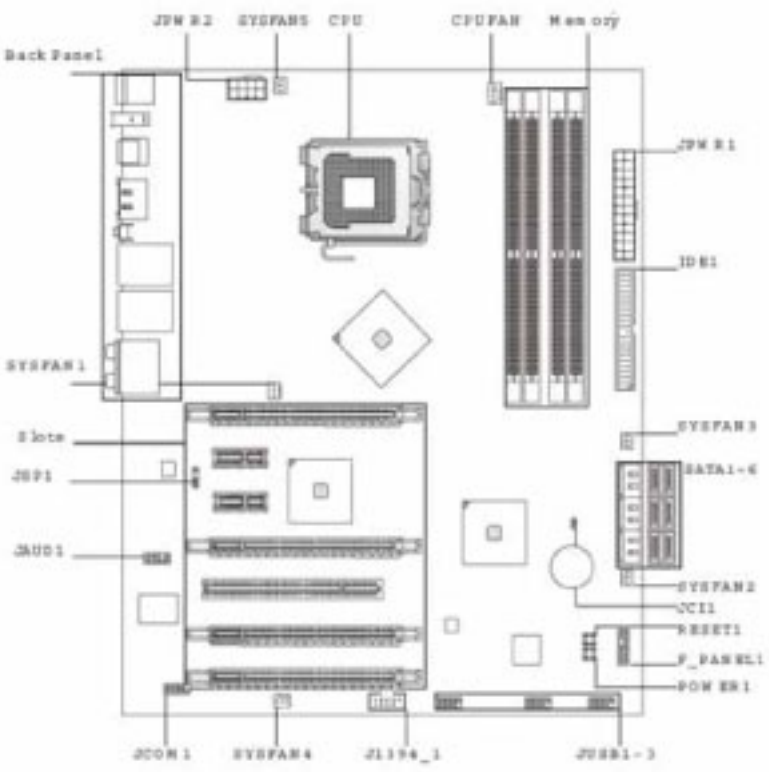
System Block Diagram and Board Layout

System Block Diagram



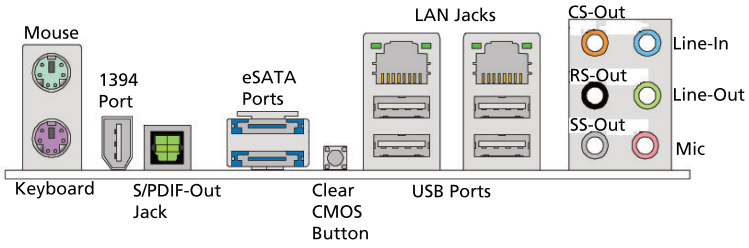
Board Layout

Mainboard



Code	Component	Code	Component
JPWR2	8-pin ATX power connector	JUSB1-3	Front USB connectors
SYSFAN5	System fan 5 cable connector	J1394_1	IEEE 1394 connector
CPU	Processor socket	SYSFAN4	System fan 4 cable connector
CPUFAN	Processor fan cable connector	JCOM1	Serial port connector
Memory	System memory slots (DIMM 1 to 4)	JAUD1	Front panel audio connector
JPWR1	24-pin ATX power connector	JSP1	S/PDIF out connector
IDE1	IDE cable connector	Slots	PCI Express x8 slot (PCI_E6)
SYSFAN3	System fan 3 cable connector		PCI Express x16 slot (PCI_E5)
SATA1-6	SATA data cable connectors		PCI 2.3 5V slot (PCI1)
SYSFAN2	System fan 2 cable connector		PCI Express x16 expansion slots (supports PCI-E 2.0x 16 speed) (PCI_E1 and PCI_E4)
JCI1	Chassis intrusion connector		PCI Express x1 slots (PCI_E2 and PCI_E3)
RESET1	Reset button	SYSFAN1	System fan 1 cable connector
F_PANEL1	Front panel connector	Back Panel	Refer to the Back Panel I/O table.
POWER1	Power button		

Back Panel I/O

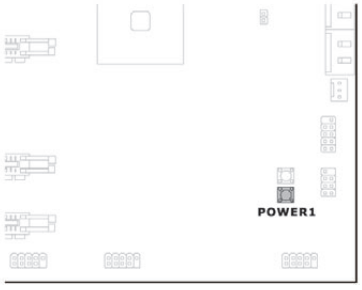


Code	Color	Component
Mouse	Green	PS/2 mouse port
Keyboard	Purple	PS/2 keyboard port
1394 port		IEEE 1394 port (6-pin)
S/PDIF-out jack		S/PDIF port
eSATA ports	Blue	eSATA ports
Clear CMOS Button		CMOS reset button
LAN Jacks		Network ports
USB ports		USB ports
CS-Out	Orange	Center speaker/subwoofer jack (in 5.1/7.1 channel mode)
RS-Out	Black	Rear speaker/surround out jack (in 4/5.1/7.1 channel mode)
SS-Out	Gray	Side speaker/surround out jack (in 7.1 channel mode)
Line-In	Blue	Audio-in/line-in/side-surround out jack (in 7.1 channel mode) This jack connects to an external CD player, tape player, or other audio devices.
Line-Out	Green	Headphone/line-out/front speaker jack This jack connects to speakers or headphones.
Mic	Pink	Microphone/line-in jack This jack connects to a microphone.

System Switches and Jumpers

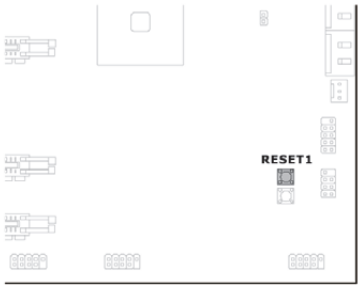
Power Button

Press the power button (POWER1) on the mainboard to turn the system on or off.



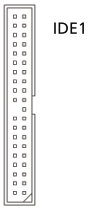
Reset Button

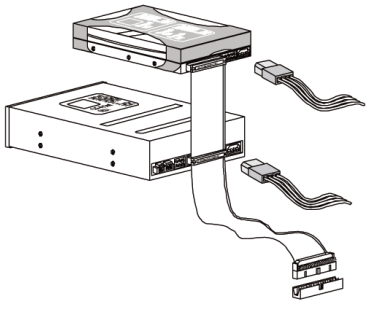
Press this reset button (RESET1) on the mainboard to reset the system.



IDE Connector

The IDE connector (IDE1) supports IDE hard disk drives, optical disk drives, and other IDE devices.

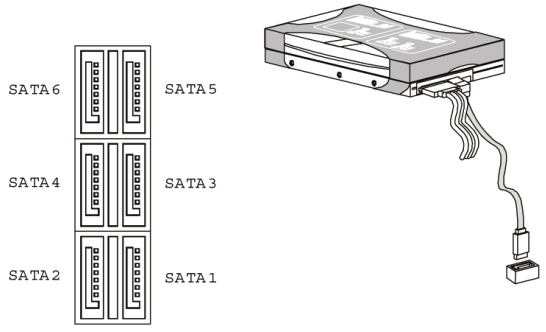




IMPORTANT: If you install two IDE devices on the same cable, you must configure the drives separately to master/slave mode by setting jumpers. Refer to IDE device's documentation supplied by the vendors for jumper setting instructions.

Serial ATA Connectors

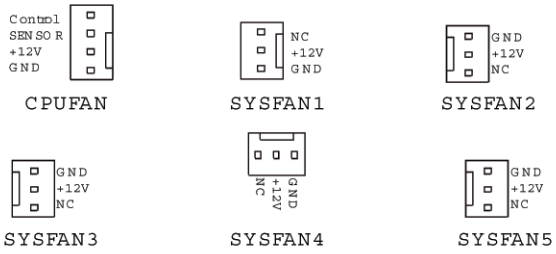
The six serial ATA connectors (SATA1-6) is a high-speed Serial ATA interface port. Each connector can connect to one Serial ATA device.



IMPORTANT: Please do not fold the Serial ATA cable into 90-degree angle. Otherwise, data loss may occur during transmission.

Fan Power Connectors

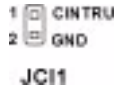
The fan power connectors (CPUFAN and SYSFAN1-5) support system cooling fan with +12V. When connecting the wire to the connectors, always note that the red wire is the positive and should be connected to the +12V; the black wire is ground and should be connected to GND.



IMPORTANT: CPUFAN supports fan control. You can install Dual Core Center utility that will automatically control the fan speed according to the actual CPU and system temperature. Fan/heat sink with 3 or 4 pins are both available for CPUFAN.

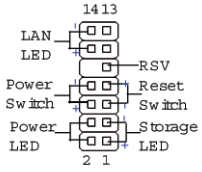
Chassis Intrusion Connector

The chassis intrusion connector (JCI1) connects to the chassis intrusion switch cable. If the chassis is opened, the chassis intrusion mechanism will be activated. The system will record this status and show a warning message on the screen. To clear the warning, you must enter the CMOS setup utility and clear the record.



Front Panel Connector

The front panel connector (F_PANEL1) connects to the front panel switches and LEDs.



Pin	Signal	Description
1	Storage_LED +	Hard disk LED pull-up
2	FP PWR/SLP	MSG LED pull-up
3	Storage_LED -	Hard disk active LED
4	FP PWR/SLP	MSG LED pull-up
5	RST_SW -	Reset Switch low reference pull-down to GND
6	PWR_SW+	Power Switch high reference pull-down to GND
7	RST_SW+	Reset Switch high reference pull-up
8	PWR_SW-	Power Switch low reference pull-up
9	RSVD_DNU	Reserved. Do not use.
10	None	No pin
12	LAN_LED+	LAN LED pull-up
14	LAN_LED-	LAN LED pull-up

Serial Port Connector

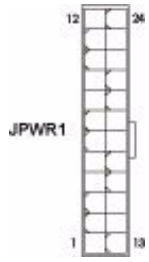
The serial port connector (JCOM1) is a 16550A high speed communication port that sends/receives 16 bytes FIFOs and connects to a serial device.

Serial port pin definition

Pin	Signal	Description
1	DCD	Data Carry Detect
2	SIN	Serial In or Receive Data
3	SOUT	Serial Out or Transmit Data
4	DTR	Data Terminal Ready
5	GND	Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicate

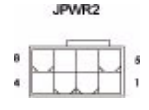
Power Connectors

The ATX 24-pin power connector (JPWR1) allows you to connect an ATX 24-pin or ATX 20-pin power supply. When using a 20-pin ATX power supply, plug the power supply along with pins 1 and 13. A foolproof design is on pins 11, 12, 23, and 24 to avoid wrong installation.



Pin	Signal	Pin	Signal
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS-ON#
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	PWR OK	20	Res
9	5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	GND

The ATX 12V power connector (JPWR2) provides power to the processor.



Pin	Signal	Pin	Signal
1	GND	5	+12V
2	GND	6	+12V
3	GND	7	+12V
4	GND	8	+12V

Important notification about power issue

The NForce chipset is very sensitive to ESD (Electrostatic Discharge), therefore this issue mostly happens while the users intensively swap memory modules under S5 (power-off) states, and the power cord is plugged while installing modules. Due to several pins are very sensitive to ESD, so this kind of memory-replacement actions might cause system chipset unable to boot.

Please follow the following solution to avoid this situation.

1. Unplug the AC power cable.
2. Unplug the ATX 24-pin and ATX 12V power connectors before the first installation or during system upgrade procedure.

Front USB Connector

The front USB connectors (JUSB1, JUSB2, and JUSB3) connects to high-speed USB interface peripherals.

Pin	Signal	Pin	Signal
1	VCC	6	USB1+
2	VCC	7	GND
3	USB0-	8	GND
4	USB1-	9	Key (no pin)
5	USB0+	10	USBOC

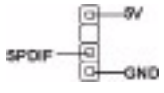
IEEE 1394 Connector

The IEEE 1394 connector (J1394_1) connects the IEEE1394 device via an optional IEEE1394 bracket.

Pin	Signal	Pin	Signal
1	TPA+	6	TPB-
2	TPA-	7	Cable power
3	Ground	8	Cable power
4	Ground	9	Key (no pin)
5	TPB+	10	Ground

S/PDIF-out Connector

The S/PDIF-out connector (JSP1) is used to connect S/PDIF interface for digital audio transmission.



Front Panel Audio Connector

The front panel audio connector (JAUD1) connects the front panel audio.

HD audio pin definition

Pin	Signal	Description
1	MIC_L	Microphone - Left channel
2	GND	Ground
3	MIC_R	Microphone - Right channel
4	PRESENCE#	Active low signal-signals BIOS that a High Definition Audio dongle is connected to the analog header. PRESENCE# = 0 when a High Definition Audio dongle is connected
5	LINE out_R	Analog Port - Right channel
6	MIC_JD	Jack detection return from front panel microphone JACK1
7	Front_JD	Jack detection sense line from the High Definition Audio CODEC jack detection resistor network
8	NC	No control
9	LINE out_L	Analog Port - Left channel
10	LINE out_JD	Jack detection return from front panel JACK2

AC'97 audio pin definition

Pin	Signal	Description
1	MIC	Microphone input signal
2	GND	Ground
3	MIC_PWR	Microphone power
4	NC	No Control
5	LINE out_R	Right channel audio signal to front panel
6	NC	No Control
7	NC	No Control
8	Key	No pin
9	LINE out_L	Left channel audio signal to front panel
10	NC	No Control

CMOS Reset Button

The CMOS reset button located on the rear of the system, is powered by a battery on board to keep the system configuration data. The CMOS RAM records the correct time and setting of system hardware configuration. With the CMOS RAM, the system can automatically boot OS every time it is turned on. If you want to clear the system configuration, use the CMOS reset button to clear data.

To clear the CMOS RAM:

NOTE: Make sure the system is powered off before performing the following instruction.

1. Turn off the system and all the peripherals connected to it.
2. Press the CMOS reset button located on the rear of the system. Refer to “Rear Panel” on page 6 for the location of the CMOS reset button.

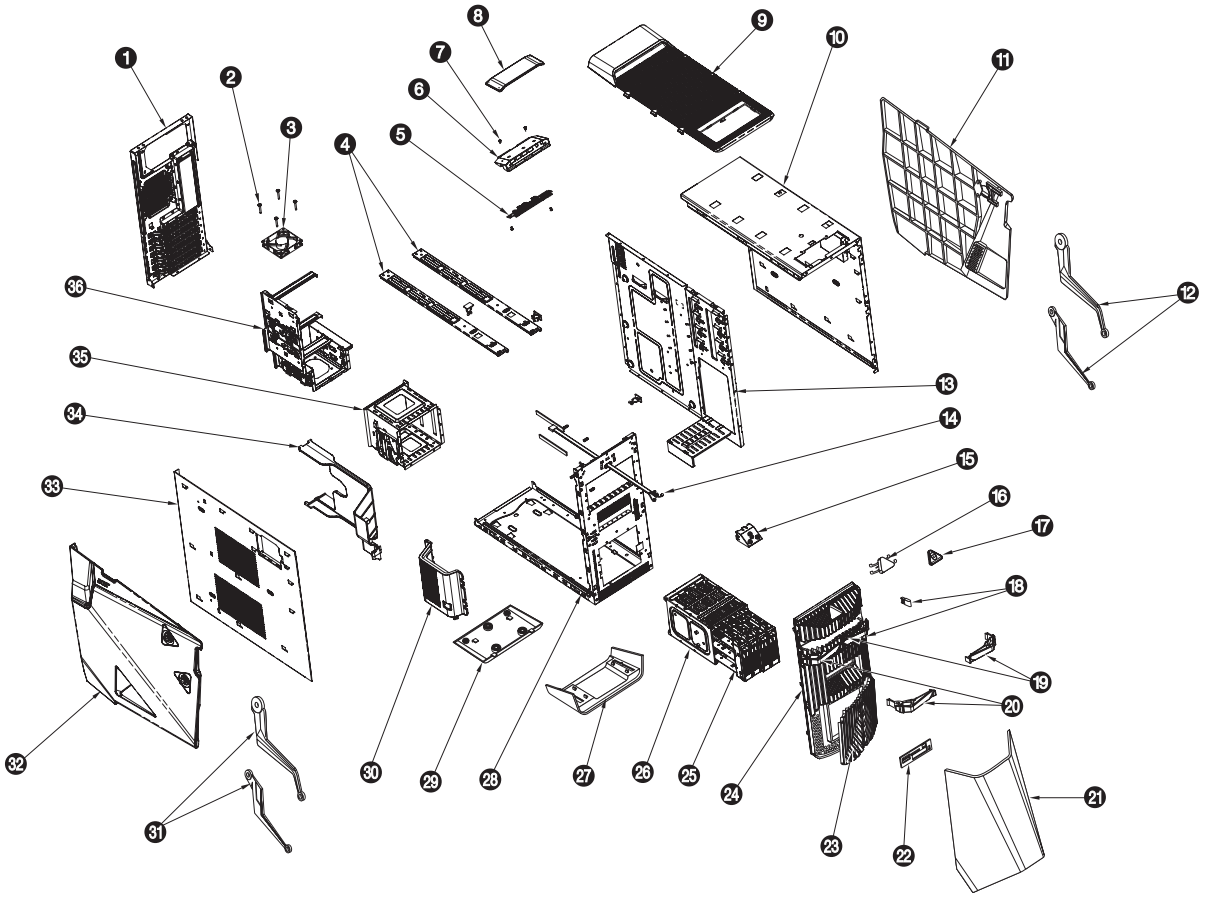
FRU (Field Replaceable Unit) List

This chapter offers the FRU (Field Replaceable Unit) list in global configuration of the desktop computer. Refer to this chapter whenever ordering the parts to repair or for RMA (Return Merchandise Authorization).

NOTES:

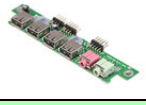
- When ordering FRU parts, check the most up-to-date information available on your regional web or channel. For whatever reasons a part number is changed, it will NOT be noted on the printed Service Guide. For Acer authorized service providers, your Acer office may have a different part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for service.
- To scrap or to return the defective parts, follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.
- This document will be updated as more information about the FRU list becomes available.

Aspire G7700 Series Exploded Diagram



ITEM	PART NO.	PART NAME	QTY
1	60.3V218.002	ASSY BRKT REAR BRACKET AG900	1
2	86.00J10.A60	SCREW M#6-32 L20 BZN	4
3	23.10240.001	FAN 7150 BUMBLEBEE ANNIE HDD	1
4	33.3V207.001	BRKT LINKBAR UP BRACKET AG900	2
5	54.13042.001	FRONT I/O BOARD YADB001-GP	1
6	33.3V209.001	BRKT FRONT IO BRACKET AG900	1
7	86.00E66.D60	SCRW PAN M#6-32 L5 BZN	4
8	42.3V218.001	CVR FRONT IO COVER AG900	1
9	60.3V208.001	ASSY TOP COVER AG900	4
10	60.3V212.001	ASSY BRKT R-SIDE BRACKET AG900	1
11	60.3V207.001	ASSY SIDE COVER RIGHT AG900	1
12	42.3V203.001	HINGE FRONT COVER RIGHT 1	1
	42.3V204.001	HINGE FRONT COVER RIGHT 2	1
13	33.3V205.001	AG900-BKT-MB-BRACKET	1
14	50.3V203.001	C.A. LED SWITCH CABLE	1
15	42.3V229.001	HOLDER POWER KNOB AG900	1
16	42.3V223.001	LENS POWER AG900	1
17	42.3V222.001	KNOB POWER AG900	1
18	42.3V224.001	KNOB ODD AG900	2
19	42.3V226.001	DOOR ODD RIGHT AG900	2
20	42.3V225.001	DOOR ODD LEFT AG900	2
21	60.3V210.001	ASSY FRONT COVER AG900	1
22	60.3V220.001	ASSY HDD DOOR AG900	1
23	42.3V201.001	LBL CARD READER LABEL	1
24	60.3V209.001	ASSY FRONT BEZEL AG900	1
25	60.3V217.001	ASSY HDD CARRIER SATA AG900	4
26	60.3V216.001	ASSY BRKT 4HSP HDD CAGE AG900	1
27	60.3V204.001	ASSY FRONT STAND AG900	1
28	33.3V203.001	BRKT FRONT LOWER SIDE BRACKET	1
29	60.3V205.001	ASSY STAND BACK AG900	1
30	42.3V230.001	HOLDER SUPPORT VGA AG900	1
31	42.3V201.001	HINGE FRONT COVER LEFT 1	1
	42.3V202.001	HINGE FRONT COVER LEFT 2	1
32	60.3V206.001	ASSY SIDE COVER LEFT AG900	1
33	60.3V213.001	ASSY BRKT L-SIDE BRACKET AG900	1
34	42.3V231.001	HOLDER FAN DUCK UP AG900	1
35	60.3V215.001	ASSY BRKT HDD BRACKET AG900	1
36	60.3V214.001	ASSY BRKT ODD CAGE AG900	1

Aspire G7700 Series (81.3V201.001G)

Component	Part Name	Description	Acer Part Number
System board			
	MB NVIDIA G9000 C72XE/ MARVELL	MB NVIDIA G9000 C72XE/MARVELL	MB.SAS01.002
CPU			
	IC CPU YORKFIELD QX9650 3.0G	IC CPU YORKFIELD QX9650 3.0G	KC.96501.QX0
	IC CPU YORKFIELD Q9300 2.5G	IC CPU YORKFIELD Q9300 2.5G	KC.93001.QQ0
	IC CPU KENTSFIELD Q6600 2.4G	IC CPU KENTSFIELD Q6600 2.4G	KC.66001.QQG
Liquid cooler			
	ASSY BUMBLEBEE LC ASETEK	ASSY BUMBLEBEE LC ASETEK	60.3V201.001
	FAN 12038 BUMBLEBEE ANNIE	FAN 12038 BUMBLEBEE ANNIE	23.10239.001
VGA			
	VGA CARD NV 8800GT 512MB DDR3	VGA CARD NV 8800GT 512MB DDR3	VG.PC88G.T05
	VGA CARD NV 8800GT 512MB DDR3	VGA CARD NV 8800GT 512MB DDR3	VG.PC88G.T06
Memory			
	DIMM 1G NT1GT64U8HB0BY-25D	DIMM 1G NT1GT64U8HB0BY-25D	KN.1GB03.020
	DIMM 2G GU342G0ALEPR692C6CE	DIMM 2G GU342G0ALEPR692C6CE	KN.2GB0H.004
	DIMM 2G TX1066QLU-2G	DIMM 2G TX1066QLU-2G	KN.2GB0F.002
TV Tuner			
	HAUPPAUGE WINTV-HVR-1200, HYBI	HAUPPAUGE WINTV-HVR-1200, HYBI	TV.AMIKI.SR2
	TV TUNER CARD PE585QA PCI-E HY	TV TUNER CARD PE585QA PCI-E HY	TU.10500.009
Wireless LAN			
	WLAN 802.11G WP61R2	WLAN 802.11G WP61R2	NI.10200.005
Audio Board			
	MB NVIDIA G9000 C72XE/ MARVELL	MB NVIDIA G9000 C72XE/MARVELL	MB.SAS01.002
System fan			
	MB NVIDIA G9000 C72XE/ MARVELL	MB NVIDIA G9000 C72XE/MARVELL	23.10240.001

Component	Part Name	Description	Acer Part Number
Power			
	SPS 750W PFC GPS-750AB A	SPS 750W PFC GPS-750AB A	PY.75009.001
HDD board			
	BUMBLEBEE BACK PLANE BD-1 SKU2	BUMBLEBEE BACK PLANE BD-1 SKU2	81.3V210.002G
	BUMBLEBEE BACK PLANE BD-1 SKU3	BUMBLEBEE BACK PLANE BD-1 SKU3	81.3V210.003G
	BUMBLEBEE BACK PLANE BOARD-1	BUMBLEBEE BACK PLANE BOARD-1	81.3V210.004G
Card reader			
	CARD READER 3.5", USB2.0, 14-I	CARD READER 3.5", USB2.0, 14-I	CR.10400.008
	CARD READER 3.5", USB2.0, 14-I	CARD READER 3.5", USB2.0, 14-I	CR.10400.009
Optical drive			
	HLDS SUPER MULTI SATA GH-15N BOXER	HLDS SUPER MULTI SATA GH-15N BOXER	KU.0160D.034
	PLDS SUPER MULTI SATA DH-16A3S BOXE	PLDS SUPER MULTI SATA DH-16A3S BOXE	KU.01609.005
	Sony SUPER-MULTI 16X SATA AD-7200S	Sony SUPER-MULTI 16X SATA AD-7200S	KU.0160E.002
	HLDS BD 4X HLDS GGC-H20N BOXER	HLDS BD 4X HLDS GGC-H20N BOXER	KV.0040D.001
Hard disk drive			
	WD HDD 250GB WD WD2500AAJS-22B4A0	WD HDD 250GB WD WD2500AAJS-22B4A0	KH.25008.020
	WD HDD 320GB WD WD3200AAJS-22B4A0	WD HDD 320GB WD WD3200AAJS-22B4A0	KH.32008.014
	HGST HDD 500GB HGST HDP725050GLA380	HGST HDD 500GB HGST HDP725050GLA380	KH.50007.003
	HGST 750GB SATA 8MB 7200 NCQ	HGST 750GB SATA 8MB 7200 NCQ	KH.75007.001
	WD HDD WD 750GB SATA 8MB 7200 NCQ	WD HDD WD 750GB SATA 8MB 7200 NCQ	KH.75008.001
	HGST 1TB SATA 8MB 7200 NCQ	HGST 1TB SATA 8MB 7200 NCQ	KH.01K07.001
	ASSY BRKT 4HSP HDD CAGE AG900	ASSY BRKT 4HSP HDD CAGE AG900	60.3V216.001
	ASSY HDD CARRIER SATA AG900	ASSY HDD CARRIER SATA AG900	60.3V217.001

Component	Part Name	Description	Acer Part Number
Housing			
	ASSY MAIN CHASSIS AG900 A	ASSY MAIN CHASSIS AG900 A	60.3V202.001
	ASSY FRONT STAND AG900	ASSY FRONT STAND AG900	60.3V204.001
	ASSY STAND BACK AG900	ASSY STAND BACK AG900	60.3V205.001
	ASSY SIDE COVER LEFT AG900	ASSY SIDE COVER LEFT AG900	60.3V206.001
	ASSY BRKT L-SIDE BRACKET AG900	ASSY BRKT L-SIDE BRACKET AG900	60.3V214.001
	ASSY SIDE COVER RIGHT AG900	ASSY SIDE COVER RIGHT AG900	60.3V207.001
	ASSY FRONT COVER AG900	ASSY FRONT COVER AG900	60.3V210.001
	ASSY TOP COVER AG900	ASSY TOP COVER AG900	60.3V208.001
	ASSY FRONT BEZEL AG900	ASSY FRONT BEZEL AG900	60.3V209.001
	HINGE FRONT COVER LEFT 1	HINGE FRONT COVER LEFT 1	42.3V201.001
	HINGE FRONT COVER LEFT 2	HINGE FRONT COVER LEFT 2	42.3V202.001
	HINGE FRONT COVER RIGHT 1	HINGE FRONT COVER RIGHT 1	42.3V203.001
	HINGE FRONT COVER RIGHT 2	HINGE FRONT COVER RIGHT 2	42.3V204.001
LED cable			
	HOLDER POWER KNOB	HOLDER POWER KNOB	42.3V229.001
	C.A. LED SWITCH CABLE	C.A. LED SWITCH CABLE	50.3V203.001

Component	Part Name	Description	Acer Part Number
Assembly box			
	POWER CORD 1800MM 250V EURO	POWER CORD 1800MM 250V EURO	27.01518.0J1
	POWER CORD 1800MM 250V UK	POWER CORD 1800MM 250V UK	27.03118.031
	POWER CORD 250V BRAZIL	POWER CORD 250V BRAZIL	27.01518.0R1
	CORD VCTF 3G 7A/ 125V(JAPAN)	CORD VCTF 3G 7A/125V(JAPAN)	27.01518.181
	POWER CORD ACA WITH TESTED TAG	POWER CORD ACA WITH TESTED TAG	27.01518.0N1
	POWER CORD 110V TW	POWER CORD 110V TW	27.01518.0M1
	POWER CORD 110V UL USA	POWER CORD 110V UL USA	27.01518.0I1
	POWER CORD 250V CCC 1800MM PRC	POWER CORD 250V CCC 1800MM PRC	27.01518.0K1
	KB USB G15 920-001383 LOGI 109	KB USB G15 920-001383 LOGI 109	N/A
	Logitech G5_USB	Logitech G5_USB	N/A
	WL USB DONGLE 802.11G WU61RL	WL USB DONGLE 802.11G WU61RL	NI.10200.002
Packing			
	BAG EPE+PE 860*800*0.5MM	BAG EPE+PE 860*800*0.5MM	42.3ZM.07.002
	CTN AB 665*365*665MM BUMBLEBEE	CTN AB 665*365*665MM BUMBLEBEE	44.3V201.011
	ACCESSORY BOX BUMBLEBEE	ACCESSORY BOX BUMBLEBEE	44.3V202.011
	CUSHION EPE B 655*355*150	CUSHION EPE B 655*355*150	47.3V201.001
	CUSHION EPE T 655*355*150	CUSHION EPE T 655*355*150	47.3V202.001
	PAD EPE 380*180*2	PAD EPE 380*180*2	47.3V208.001
	PAD B BUMBLEBEE	PAD B BUMBLEBEE	47.3V210.001
	ACCESSORY TRAY EPE BUMBLEBEE	ACCESSORY TRAY EPE BUMBLEBEE	47.3V211.001
	SHEET PE 1600*1600*0.04	SHEET PE 1600*1600*0.04	42.73D05.001
	CORNER KRAFT 1000*50*50*3 M1KC	CORNER KRAFT 1000*50*50*3 M1KC	46.30S04.001
	PAPER CORNER 2200*50*50*3	PAPER CORNER 2200*50*50*3	46.3ZT01.001
	PALLET PLYWOOD 1350*1140*135MM	PALLET PLYWOOD 1350*1140*135MM	47.3V209.001

Technical Specifications

This section provides technical specifications for the system.

Processor

Item	Specification		
Type	Intel Core 2 Extreme	Intel Core 2 Quad	
Model Number	QX9650	Q9300	Q6600
Core	Quad (45 nm)	Quad (45 nm)	Quad (65 nm)
L2 Cache Size (MB)	12	6	8
Clock Speed (GHz)	3	2.5	2.4
Front Side Bus (MHz)	1333	1333	1066
Frequency (MHz)	3000	2500	2400
Socket	LGA 775	LGA 775	LGA 775
Clock Multiplier	9x	7.5x	9x
Voltage (V)	0.85 - 1.3625	0.85 - 1.3625	1.1 - 1.372
Thermal Design Power (W)	130	95	105 / 95

System Board Major Chips

Item	Specification
North bridge	NVIDIA nForce 780i SLI chipset
South bridge	NVIDIA nForce 570i SLI chipset

System Memory

Item	Specification		
DIMM sockets	2		
Minimum memory	512 MB		
Maximum memory	2 GB		
Vendor	Nanya	Unifosa	Transcend
Model name	NT1GT64U8HB0BY-25D	GU342G0ALEPR692C6CE	TX1066QLU-2G
DIMM size	1	2	2
DIMM speed (MHz)	800	800	800
ECC or non-ECC	Non-ECC	Non-ECC	Non-ECC
Speed	400 MHz		
	DDR2-800	DDR2-800	DDR2-800
	PC2-6400		PC2-6400
Pin count	240	240	240

System BIOS

Item	Specification
BIOS vendor	American Megatrends Inc.

PCI Interface

Item	Specification
PCI controller	NVIDIA nForce 570i SLI chipset
Number of slots	• Three PCI Express x16 bus slots • Two PCI Express x 1 slot • PCI Express x8 slot • PCI 2.3 slot (support 5V PCI bus interface)

Network Interface

Item	Specification
LAN controller	Marvell 88E8056B1
Supports LAN protocol	10/100/1000 Mbps
LAN connector type	RJ45

IDE Interface

Item	Specification
IDE controller	IDE1: NVIDIA nForce 570i SLI IDE2: JMicron JMB363
Ultra DMA	66, 100, 133

SATA Interface

Item	Specification
SATA controller	Embedded SATA controller
Connectors	• Six SATA ports • Two eSATA ports

Audio Interface

Item	Specification
Audio controller	Azalia Codec ALC888
Connectors	Up to 7.1 CH EAX 5.0 surround sound

IEEE 1394 Interface

Item	Specification
IEEE 1394 controller	JMicron JMB381
Connectors	Front and rear ports

Optical Drive

BD-R

Item	Specification	
Vendor	HLDS	
Model name	GGW-H20N	GGC-H20N
Drive type	BD-R	BD-R
Write Speed	BD-R(SL) 2x, 4x CLV BD-R(DL)/BD-RE(SL/DL) 2x CLV DVD-R 2x, 4x CLV, 8x ZCLV DVD-R(DL) 2x, 4x CLV DVD-RW 2x, 4x CLV, 6x ZCLV DVD+R 2.4x, 4x CLV, 8x ZCLV DVD+R(DL) 2.4x, 4x CLV DVD+RW 2.4x, 4x, 6x CLV, 8x ZCLV CD-R 10x CLV, 16x CLV CD-RW 4x, 10x, 16x CLV	DVD-RAM 5x PCAV DVD+R (DL) 4x CLV DVD+RW 8x ZCLV DVD+R 16x PCAV DVD-R (DL) 4x CLV DVD-RW 6x CLV DVD-R 16x PCAV CD-RW 24x ZCLV CD-R 40x PCAV
Read Speed	BD-ROM(SL) 4x max. CAV BD-ROM(DL) 3.2x max. CAV BD-R(SL) 4x max. CAV BD-R(DL)/BD-RE(SL/DL) 3.2x max. CAV HD DVD-ROM(SL) 3x max. CAV HD DVD-ROM(DL) 2.4x max. CAV DVD-R/RW/ROM(SL/DL) 10x / 8x / 12x / 8x max. CAV DVD-R DL 6x max. CAV DVD-Video (CSS Compliant Disc) 6x max. (Single/Dual layer) CAV DVD+R/+RW 10x / 8x max. CAV DVD+R DL 6x max. CAV CD-R/RW/ROM 32x / 24x / 32x max. CAV CD-DA (DAE) 24x max. CAV	HD DVD 3x BD 6x DVD 16x CD 40x
Data Transfer Rate	BD-ROM 143.86 Mbits/s (4x) max HD DVD-ROM 109.65 Mbits/s (3x) max DVD-ROM 16.62 Mbytes/s (12x) max CD-ROM 4,800 Kbytes/s (32x) max	—
Access Time	BD-ROM 370 ms typ HD DVD-ROM 340 ms typ DVD-ROM 270 ms typ CD-ROM 250 ms typ	—
Buffer Size	4 MB	4 MB
Interface Type	Serial ATA	Serial ATA

Super Multi

Item	Specification		
Vendor	HLDS	Philips	Sony
Model name	GH-15N	DH-16A3S	AD-7200S
Drive type	Super Multi	Super Multi	Super Multi
Write Speed	—	—	DVD-R: 18x max. DVD +R DL: 8x max. DVD -R DL: 12x max. DVD+RW: 8x max. DVD-RW: 6x max. DVD-RAM: 12x max. CD-R: 48x CD-RW: 32x
Read Speed	—	—	DVD: 16x max. CD: 48x max.
Data Transfer Rate	—	—	—
Access Time	—	—	DVD: 160 ms CD: 140 ms
Buffer Size	4 MB	4 MB	2 MB
Interface Type	Serial ATA	Serial ATA	Serial ATA